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Self-Concept Uncertainty and Self-Esteem Liability: Vulnerability Factors for Depression?

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Self-Concept Uncertainty and Self-Esteem Lability: Vulnerability Factors for Depression?

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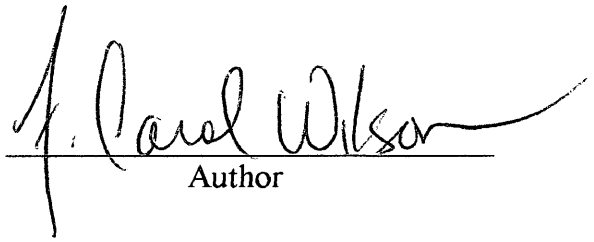

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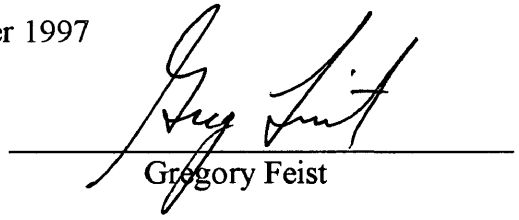

Gregory Feist

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Larry Ventis

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ABSTRACT

Previous research has suggested that an over-reliance on external self-relevant stimuli, which can lead to extreme fluctuations in feelings of self-esteem, is a risk factor for depression (Butler et al., 1994). It was hypothesized that uncertainty about self-attributes offers an explanation as to why some individuals are overly susceptible to outside influences and, hence, more prone to depression. Study 1 indicated that both poorer esteem and less certainty about the self were associated with greater depression. Study 2 expanded on Study 1 by collecting longitudinal data and exploring emotional information as one possible source of external stimuli associated with self-esteem lability. As expected, uncertainty about the self and emotional sensitivity did explain a significant amount of variance in self-esteem fluctuations. When all variables were entered into a regression analysis, self-concept uncertainty was the only significant predictor of depression. Further study of self-esteem lability and self-concept uncertainty is advocated, and possible interventions for depression are discussed.

Self-Concept Uncertainty and Self-Esteem Lability:

Vulnerability Factors for Depression?

INTRODUCTION

The research that has explored 'the self' is rich and extensive and embodies a pursuit that has engaged psychologists almost since psychology began as a discipline. How individuals construct their sense of 'self' has been a matter of debate among various theorists and researchers, but all have recognized that this sense of self is essential to an individual's identity, and is considered to have two major components: self-concept (or self-image) and self-esteem. Both of these components are seen as essential to understanding how an individual views him or herself and the world. Self-concept has been described as the content aspect of self--a multifaceted, dynamic cognitive schema that represents and controls our knowledge of previous thoughts and deeds, essentially what we have been and done (Markus & Wurf, 1987). Examples of the knowledge components have included beliefs about one's specific attributes, including traits and physical appearance, as well as one's social roles, values, and goals (Campbell, Trapnell, Heine, Katz, Lavallee, & Lehman, 1996). Several researchers have defined the main function of the self-concept is to guide future ideas and actions, to structure what we will one day be or do (Campbell & Lavallee, 1993; Markus & Nurius, 1984).

Self-esteem, on the other hand, is delineated as the emotion-laden, evaluative component of one's self-view, described by Campbell and Lavallee (1993) as "a self-reflexive attitude that is the product of viewing the self as an object of evaluation" (p. 4). Achieving consistency in the sense of self, understanding who you are and feeling good about yourself, is considered essential to achieving a healthy adult personality and experiencing positive adjustment throughout the lifespan (Erikson, 1950).

Views of the Self and Risk for Depression

With the goal of exploring exactly how concepts of the self relate to adjustment, one aspect of the self, self-esteem, has been a topic of considerable focus. Self-esteem has spawned such a prolific body of literature perhaps because it has been shown to have pervasive and powerful influences on many areas of human existence, including cognition, emotion, mood, and behavior (Campbell & Lavallee, 1993). Previous research has indicated that a consistent positive view of oneself--high self-esteem--is generally related to psychological wellbeing (Baumeister, 1993; Cambell & Lavallee, 1993; Harter, 1993).

Perhaps even more important, research has suggested associations between self-esteem (or self-evaluation) and depression (Abramson, Seligman, & Teasdale, 1978; Beck, Rush, Shaw, & Emery, 1979; Butler, Hokanson, & Flynn, 1994; Garber, Weiss, & Shanley, 1993; Kuiper & Olinger, 1986). Although both research and clinical experience generally have implicated self-esteem as having a causal role in the development of depressive symptomology, many investigations of the relationship between self-esteem and the on-set of depression have yielded inconsistent results (Altman & Wittenborn, 1980; Hamilton & Abramson, 1983; Hokanson, Rubert, Welker, Hollander, & Hedeen, 1989; Lewinsohn, Steinmetz, Larson, & Franklin, 1981). Recognizing these inconsistencies, Harter (1993) described the importance of delineating global self-esteem from self-esteem in specific domains, as well as the need to ascertain the importance of a specific domain for the individual. Pelham (1991) also found that a negative evaluation of the self does not lead to poor self-esteem or depression if the evaluative domain is not considered important. For instance, even if an individual believed herself to be athletically challenged, if sports are not an important aspect of her life, this would not influence her over-all feelings of self-worth, nor would she become depressed by poor performance. In fact, Pelham (1993) found that even an individual who tends to have a globally poor (or

neutral) view of himself might have one specific domain at which he feels very competent and confident. He argued that this one positive area could be enough to stall the development of depression. Other inconsistencies in the low self-esteem depression literature also included the finding that even when a depressed (or formerly depressed) individual's trait self-esteem is not especially low, the individual may still believe that self-esteem comes from outside sources (Beck et al., 1979; Marzeiller, 1986).

These apparently contradictory findings suggest that the self-esteem-depression connection is much more complicated than simply saying low self-esteem leads to depression and have prompted some researchers to suggest that these inconsistencies have implications for the way in which self-esteem should be conceptualized as a risk factor for depression. Building on the finding that some individuals' self-esteem comes from external sources, Kernis (1993) proposed expanding past research that solely focused on self-esteem as a trait to recognize the day-to-day fluctuations in feelings of self-worth that could result from the belief that self-esteem comes from outside sources, which he labels as 'self-esteem stability.' Self-esteem stability, or lability, is operationalized as a continuum on which individuals differ, with slight to moderate reactivity of feelings of self-worth to daily hassles and uplifts considered normal (Butler, Hokanson & Flynn, 1994; Kernis, Cornell, Sun, Berry, & Harlow, 1993; Kernis, 1993). High lability, excessive alternating highs and lows in self-esteem (Butler et al., 1994), however, may put an individual at higher risk for a major depressive episode because less life stress is required to precipitate an on-set of negative affect. Using lability as a construct, Butler and colleagues (1994) found self-esteem lability to be a better index of depression-proneness than simple measures of trait self-esteem. In fact, self-esteem lability at initial measurement was found to increase risk for depression at a second measurement five months later. Roberts and Monroe (1992) also found that greater lability in self-esteem predicted increases in

depressive symptoms at later assessments.

In addition to recognizing the importance of self-esteem lability as an important construct, researchers (Kernis, Granneman & Mathis, 1991; Roberts, Kassel, & Gotlib, 1995) have also begun to recognize an important point regarding the predictive nature of self-esteem lability. Specifically, Kernis et al. (1991) emphasize that it is important to note that individuals who have stable self-esteem tend to fluctuate less on a short-term basis in their current self-esteem. Therefore, for individuals with stable self-esteem, a measure of global self-esteem at any given time is likely to be highly indicative of their trait self-esteem. A very different picture is presented by the labile individual, however. For these people, a measure of self-esteem at any one time may be very different from their general level of self-esteem. For instance, vulnerable individuals would not necessarily be characterized by low self-esteem at every assessment. In fact, in his research, Kernis (1993) advocated the importance of exploring the possible interaction of one's global level of self-esteem with one's general tendency to have either more labile or more stable self-esteem from day to day. He described four basic self-esteem categories: Stable High, Unstable High, Unstable Low, and Stable Low. Based on these findings, both Kernis et al. (1991) and Roberts et al. (1995) have suggested that it is the interaction between global level and instability that may explain the inconsistent results in the low self-esteem-depression literature.

In order to test this idea, Kernis et al. (1991) conducted a study that examined both and of self-esteem and the stability of that level in predicting depression. Indeed, they found that instability of self-esteem appeared to serve as risk factor for depression by moderating the relationship between trait level of self-esteem and depression. Although Kernis has shown repeated empirical support for both level and instability of self-esteem predicting depressive symptomology (Kernis et al., 1993; Kernis et al., 1992), others have

found inconsistencies.

In their investigations, Roberts et al. (1995) found that the interaction between level of self-esteem and instability of self-esteem failed to be a significant predictor of changes in depressive symptoms, contrary to Kernis et al (1991). Instead, they suggested that Kernis et al.'s (1991) finding is unreliable and offered evidence that level of self-esteem was associated with future depresssive symptoms in both individuals with relatively stable and labile self-esteem.

Overall, however, many of these findings suggest that it is may not be low self-esteem per se that is a risk factor for depression, but perhaps the enhanced sensitivity to evaluative events and over-reliance on social sources of information (Butler et al., 1994; Kernis, 1993; Roberts & Monroe, 1992). This over-reliance on and heightened sensitivity to external sources of evalutation can promote instability in self-esteem as a result of the often ambiguous and possibly contradictory nature of others' statements and sentiments (Butler, et al., 1994; Kernis, 1993).

With their findings, Butler et al. (1994) and Kernis (1993) offered support for the view that some individuals display greater fluctuations in state self-esteem due to a greater dependency on external life-events or social occurrences and are also more likely to endorse dysfunctional attitudes, such as the belief that one's self-worth depends greatly upon environmental occurrences and/or other's evaluations of one's actions. Yet, past research has offered few explicit explanations for why some individuals are more prone to these patterns of thinking, why some individuals are more sensitive to social self-relevant stimuli and may experience self-esteem lability. However, one possible explanation for differences in reactivity to external information and heightened sensitivity to perceived life stresses may exist: self-concept certainty.

Self-concept clarity, or certainty (SCC), is operationalized as the extent to which the contents of self-beliefs are clearly, consistently, and confidently defined (Campbell, 1990; Campbell & Lavallee, 1993); it is a structural aspect of self-concept. It is independent of content and accuracy of one's beliefs (Campbell et al., 1996). SCC is considered to be narrower in focus than the larger construct of identity, which embodies a much richer and more complex set of elements than certainty (Campbell, 1990; Campbell & Lavallee, 1993; Campbell, Chew, & Scratchley, 1991; Campbell et al., 1996). In extensive investigations, Campbell and colleagues (1996) offered evidence that SCC differed among individuals and could be measured reliabily and validly. Baumgardner (1990) found that this difference was not due to global uncertainty or a tendency for low self-esteem individuals to have a more conservative or protective presentation style.

Furthermore, Campbell (1990) also delineated the construct of self-concept uncertainty from functional flexibility, which others have defined as the individual's perceived capability to perform a wide range of social behaviors required by situations (Paulus & Martin, 1988). Although it is almost certain that some individuals have more flexible views of themselves than others, Campbell (1990) has argued that within this group there is a further subset of people whose self-concepts are also characterized by less confidence and stability. These individuals are more likely to report a feeling of situationality, or the subjective sensation that one's behavior is very strongly influenced, or controlled, by the environment. Perceived control in behavior fluctuation seems to be the defining factor. Situatonality is associated with a subjective feeling of being acted upon, while flexible functionality is related to a subjective feeling of being an actor or an agent.

Together, these investigations suggest that self-concept certainty is a personality trait that differentiates individuals. Individuals without self-concept certainty lack a consistent definition of their attributes, competencies, or abilities so that they have fewer

definite views about what they are like or how they feel, and the views they do have contain contradictions, inconsistencies, and fluctuate from day to day (Baumeister, 1993). These individuals wander through life wondering, "Who am I? What do I want?" (Baumeister, 1993; Campbell et al., 1993). Baumgardner (1990) suggests that a strong sense of identity, or certainty in self-attributes, promotes a sense of understanding about, and confidence in, oneself. People who are certain they have a specific trait or ability, whether it is a positive or negative trait, can selectively choose situations to maximize outcomes, especially to gain self-affirming information. In this way, confidence that one possesses traits and attributes gives an individual a sense of control over various situations and the future (Baumgardner, 1990). These individuals generally know who they are, how they feel, what they want, and how to get it. This, in turn, should engender positive feelings about the self.

In fact, Campbell and colleagues (Campbell et al., 1993; Campbell et al., 1996), as well as Baumgardner (1990), have demonstrated a connection between self-concept clarity and global self-esteem. Several recent studies have found that low (or moderately low) self-esteem individuals are characterized by less clarity or certainty in their self-concepts (Baumeister, 1993). Low self-esteem participants tend to exhibit less extremity and self-reported confidence about possessing personality attributes (Baumgardner, 1990; Campbell, 1990). Individuals scoring low on self-esteem measures also display less stability in their self-concepts over time, less internal consistency in self-definitions, lower self-related confidence, and longer reaction times when making me/not me responses to pairs of opposite traits (Campbell, 1990). Contrary to the suggestion that low-self esteem individuals display global uncertainty, Baumgardner (1990) found that low self-esteem individuals exhibited significantly broader confidence intervals and longer reaction times than high self-esteem individuals when rating their own traits but not when rating traits of

friends (Campbell & Lavallee, 1993); this suggests that lack of certainty is limited only to specific self-judgments. Low self-esteem individuals just seem to know less about themselves (Baumeister, 1993).

One purpose of the present study was to attempt to integrate previous research on self-concept uncertainty, self-esteem lability, and depression. Based on previous work, it was hypothesized that the construct of self-concept uncertainty offers a plausible and parsimonious explanation for why some individuals, especially low self-esteem individuals, demonstrate 'self-esteem plasticity' (Brockner, 1984), or lability, and why other individuals are not as prone to this instability. Those who lack clarity of self-concept should be more dependent on, susceptible to, and influenced by external perceived self-relevent stimuli, both negative and positive (Campbell, 1990), which is associated with self-esteem lability and negative affect (Butler et al., 1994). This view is consistent with theories of depression offered by both psychodynamic theories (e.g., Fenichel, 1945; Rado, 1928) and cognitive theories (Beck et al., 1979), which postulate that there are certain risk factors that can predispose an individual to depression once they are exposed to some stressor. It is also consistent with Erikson's (1950, 1959, 1968) theory of psychosocial development, which holds that a strong sense of identity is essential to a healthy adult personality and positive mental health across the lifespan.

Emotional Intelligence and Depression

The present study also explored how emotional sensitivity, or emotional intelligence, might become a risk factor for depression in individuals who have uncertain self-concepts. Salovey and Mayer define emotional intelligence as the subset of social intelligence that involves the ability to perceive, understand and monitor one's own and other's feelings and emotions, to discriminate among them, and to use this information to better predict others' future behavior and guide one's own thinking and actions (Goleman,

1995; Mayer & Salovey, 1997; Salovey & Mayer, 1990). Chief among these abilities is empathy, which Salovey and Mayer (1990) define as the capacity to recognize, comprehend, and re-experience another's emotions. These skills, they argued, are the cornerstone of a healthy personality and essential to well being. To the extent that one has these skills, one will be more successful in most aspects of life. In fact, Salovey and Mayer (1990) advocated emotional intelligence as "necessary for a minimum level of competence and adequate functioning" (p. 201). Emotional intelligence is touted as a coherent construct that should be one of the more important factors in wellbeing across the lifespan.

In support of this theory, there is evidence that emotional recognition and empathy are valid constructs. Mehrabian, Young, and Sato (1988) offer clear evidence that some individuals are just more emotionally "in tune" than others. For instance, they reported findings that individuals rated as high in empathy were more emotionally arousable than non-empathic persons; these participants displayed greater skin conductance, higher heart rate responses, and greater tendencies to weep when exposed to emotional stimuli. Sullins (1991) offered evidence that there can be an element of "mood transfer" between individuals, even after only a brief time spent together, so that the emotional tone of two partners become more alike. In fact, this can occur even if the partners do not speak to one another while interacting (Sullins, 1991). Goleman (1995) suggests that some people just appear more susceptible to emotional contagion. This trait tends to make these individuals more emotionally labile, because this sensitivity seems to facilitate the sending and receiving of moods, even if moods are negative.

Goleman (1995) argues, contrary to Salovey and Mayer (1990), that evidence for the relationship between emotional intelligence and wellbeing is not consistent. Although explorations of the relationship between emotional intelligence are in their infancy, at least one study did not find a significant relationship between emotional intelligence and life

success. Feist and Barron (1996) found that "personal soundness," their operationalization of emotional intelligence, explained a considerable amount of the variance in career success over and above measures of academic intelligence, but that neither form of intelligence predicted life satisfaction. In interpreting this finding, the authors posit that being sensitive to one's own and other's emotional states may not lead to greater happiness or more satisfaction in life. In fact, they suggest that knowing and managing emotions of self and others is a draining task considering the pain and suffering of the modern world. Therefore, individuals may become "wiser, but sadder."

Findings such as these suggest that the relationship between emotional intelligence and well being may not be strong in magnitude. In fact, as suggested by Feist and Barron (1996), the potential may exist for a connection between emotional intelligence and suboptimal adjustment, perhaps even depression. In order to understand how this might occur, it is important to recognize some very important assumptions in Mayer and Salovey's theory. In emphasizing how emotions can be used intelligently, Salovey and Mayer (1990) construct a very cognitive view of emotional sensitivity that indirectly involves a number of social skills, social perceptiveness, and, indeed, self-awareness. They emphasize emotional intelligence as "reasoning that takes emotions into account" (p. 2); "the ability to understand emotion and emotional knowledge...the ability to regulate emotions to promote emotional and intellectual growth" (p. 6). In contrast, Mehrabian, Young, and Sato (1988), view empathy as an individual's vicarious emotional response to perceived emotional experiences of others; this is seen as a more basic or "primitive" level of process whereby, almost through a process of contagion, an individual responds with emotions similar to those present. Considering this line of research and reconciling it with Mayer and Salovey's position, it can be argued that the construct Mayer and Salovey label as emotional intelligence is actually two distinct, but related, abilities or processes: 1) the

ability to recognize and understand emotions, and empathize with others--basically, being affected by emotional information, and 2) the ability to make use of this information 'effectively'.

For some individuals, it is possible that they are sensitive to the emotional expressions and feelings of others, which influences their behavior, but lack the ability to use this information effectively, as indicated by Salovey and Mayer. Essentially, their sensitivity to this information does not aid their well being. Why might this occur? Why might the key elements of emotional intelligence become a liability? One answer may lie in self-concept uncertainty.

Salovey and Mayer (1990) indicate that emotional intelligence does not include a general sense of self and appraisal of self and others. However, both they and others recognize self-concept is important. Goleman (1995) has suggested that individuals who are emotionally intelligent are "more autonomous and sure of their boundaries" (p. 45); essentially, they have a clarity, or certainty, about themselves. In contrast, there are those he labels as "engulfed" or "accepting"; these individuals are prone to emotional contagion, having a very strong tendency to become overly caught up in the emotionality of self and others--they are overly sensitive to emotional expression and emotional undertones in interactions. Therefore, these individuals do have the ability to experience the emotions of others; in fact, due to their sensitivity, others' emotional states may have a heightened impact on them, increasing the likelihood that they may become overwhelmed by these emotions. However, these individuals lack the ability to use this information to predict, guide, and control the behavior of self and others, which Salovey and Mayer (1990) hold is an essential ingredient for emotional soundness. Indeed, Goleman (1995) emphasizes the difference between being caught up in a feeling and simply being swept away by it.

Fortunately, many individuals are empathic. Unfortunately, for a minority of these individuals, possibly those who have uncertain self-concepts, what might normally aid them in social interactions may become a liability. As suggested when postulating a connection between self-concept uncertainty and self-esteem lability, lacking a clear understanding of oneself might make one particularly sensitive to information perceived as self-relevant, whether it is spoken information, written information, or nonverbal emotional information. Instead of being the golden path to wellbeing, emotional recognition and empathy may be vulnerability factors for depression in individuals who lack a clear understanding of who they are, what they want, and how they feel and, in fact, tend to lose themselves in the face of others' emotions. In this way, it is possible that emotional sensitivity could become a risk factor for depression through 'emotional contagion', or internalization of another's emotional state, essentially, the failure to recognize/understand on a cognitive level that another's emotional state is not their own. In fact, this may become a considerable potential problem when the individual interacts closely with someone who is depressed. However, a close interaction with another person may not even be necessary for emotional sensitivity to become a liability. For instance, individuals lacking certainty about the self or having unstable self-esteem may, in the process of scanning the environment for self-relevant information, be overly sensitive to the emotions of self and/or others, and may even misinterpret the relevancy, content, or intent of the emotions. In fact, because emotions are probably perceived as having an evaluative nature (i.e., anger implies something is wrong, happiness implies everything is alright), emotions may be a more salient form of external self-relevant information than other verbal information or inferences.

The present study contained two smaller components. Study 1 was an attempt to replicate research that has found an association between self-esteem and self-concept

certainty and between self-esteem and depression. The first study also sought to extend prior research by examining a possible direct relationship between self-concept certainty and depression. Study two extended study one by expanding data collection procedures; the second study contained a short-term longitudinal component. In previous research, most investigations of the relationship between self-concept certainty and self-esteem have been cross-sectional in design, or involved the collection of data from the same people at only two time points, which does not allow confidence in interpreting influence; these investigations simply demonstrated that self-concept uncertainty and poor self-esteem are associated.

Study 1

As mentioned previously, study one was an attempt to replicate research that has found an association between self-esteem and self-concept certainty and between self-esteem and depression. The first study also sought to extend prior research by examining a possible direct relationship between self-concept certainty and depression.

Method

Participants

Participants were 69 college students enrolled in undergraduate psychology classes at the College of William & Mary. All participants were solicited through sign-up sheets and received credit in partial fulfillment of class requirements. The data for three participants (two males, one female) were not included in the analyses because of incomplete or invalid data. Of the remaining participants, there were 30 males and 36 females. The mean age was 18.43 years. Ninety four percent of the participants were Caucasian, non-Hispanic.

Measures

Self-Concept Certainty: Beck Self-Concept Test (BSCT). The BSCT is a self-report questionnaire designed and validated by Beck, Steer, Epstein, & Brown (1990) in which participants are asked to rate themselves on 25 traits in relation to other people. Scale items are ranked on a scale from 1 to 5: (1)worse than nearly everyone I know, (2)worse than most people I know, (3)about the same as most people, (4)better than most people I know, and (5)better than nearly anyone I know. Sample items included items such as memory, athletic ability, and greed, with high scores reflecting a positive self-concept. For the present study, mean reaction time in responding to the characteristics included in the test served as a measure of self-concept uncertainty, with greater times indicating greater uncertainty. In past research, Campbell (1990) has demonstrated that the length of time a participant takes to respond to certain self-relevant traits is highly correlated with other measures that indicate uncertainty about one's self-concept, including the level of one's confidence in possessing characteristics or traits and the temporal stability of responses across time periods. Cronbach's alpha for the BSCT items was .63; it was .79 for the reaction times.

Self-Concept Uncertainty: Self-Concept Clarity (SCC). The SCC was created by Campbell et al. (1996), and has 12 items ranked on a 5-point scale anchored by strongly disagree (1) and strongly agree (5). This measure is scored so higher scores indicate greater certainty. Sample statements include "My beliefs are often in conflict with one another" and "In general, I have a clear sense of who I am". Campbell et al. (1996) demonstrated that this trait scale is correlated with traits associated with the Big Five model of personality, and demonstrated excellent reliability, both through temporal stability and internal consistency. Across many samples, participants' SCC scores also demonstrated strong correlations with other indicators of self-concept certainty, including

participants' self-descriptive ratings administered over time (Campbell et al., 1996). For further discussions of validity and reliability, see Campbell et al. (1996). For this study, Cronbach's alpha was .85.

Self-Concept Uncertainty: Me/Not Me Task. Variations of this measure have been created and used by both Baumgardner (1990) and Campbell (1990). Although indices of reliability and validity issues have not been as extensively addressed as others used in this study, see Baumgardner (1990) for evidence for the concurrent validity and the general usefulness of this measure. Participants were randomly presented one component of bipolar adjective pairs and ask to respond "y" if they believed that trait described them or "n" if it did not. There were 10 pairs, 20 items total: timid/bold, proud/humble, cautious/risky conventional/unconventional, calm/nervous, tactful/candid, assertive/soft-spoken, deliberate/spontaneous, gentle/boisterous, and extravagant/thrifty. Most of these pairs of traits were chosen because they do not differ greatly in terms of social desirability and are not as likely to be instantaneously perceived as positive or negative, unlike some of the traits in Beck's self-concept test. One measure of uncertainty was measured as 'misses' in yeses and nos to opposing pairs. For instance, if a participant indicated that *generally* he or she is both timid and bold, then this individual was scored '2', as uncertain, for that trait. Participants who responded that they were timid and not bold were scored as '1' or certain. After all ten pairs of traits had been matched and scored, the scores for each pair were summed and the mean taken. The lowest mean score a participant could possibly have was 1.0; the highest mean score possible was 2.0 (i.e., if he or she had answered affirmatively to every adjective). Participants were then dichotomized based on the mean for this measure ($\underline{M}$=1.43; $\underline{SD}$=.16). Individuals with lower means, ranging from one to 1.43, were classified as more certain; individuals with means closer to two, (ranging from

1.43 to two) were considered less certain. Another measure of self-concept uncertainty derived from the Me/Not Me Task was reaction time in responding to the trait, with longer reaction times indicating greater uncertainty.

Self-Esteem: Self-Esteem Questionnaire. Developed and validated by Rosenberg (1965), this frequently used self-report questionnaire contains 10 self-evaluative statements. Typical self-statements include "On the whole, I am satisfied with myself," "All in all, I am inclined to feel that I am a failure," and "I take a positive attitude toward myself." Statements were rated on a 5-point scale anchored by strongly disagree (1) to strongly agree (5). For validity and reliability information, see Rosenberg (1965). Scores determined participants' global level of self-esteem and higher scores indicate higher levels of self regard. Internal consistency for this scale was .78.

Beck Depression Inventory-Short Form (BDI-SF). The short form of BDI (Beck & Beck, 1972) has 21 items and is an extensively used measure of depressive symptoms with good psychometrics (Butler et al., 1994). The BDI is a frequently used measure with good temporal reliability and internal consistency (Beck & Beck, 1972; Beck & Steer, 1989). Beck and colleagues have repeatedly supported the scale's validity by demonstrating BDI scores are strongly related to clinical assessments of depression and anxiety, as well as other measures of self-reported symptoms, in both in-patient and out-patient populations. The questionnaire is designed so that each item has 4 potential responses and participants select one. For example, for item one, 0='I do not feel sad', 1='I feel sad', 2='I am sad all the time and can't snap out of it', and 3='I am so sad or unhappy that I can't stand it'. For this measure, higher scores are indicative of higher levels of negative affect. Cronbach's alpha for this measure was .83. It is important to note that the mean score for this measure was 7.26 (SD=5.83), well below the cut-point used to identify individuals at risk for depression, indicating that depressive symptomology is not

very severe for the sample as a whole and very few, if any, of the participants are actually depressed.

Procedure

Groups of 2-5 participants were taken into the computer lab as they arrived and informed of the general nature of the study, that they could refuse to answer any question, and could cease participation at anytime without loss of credit. They were also informed that their data would be confidential and names would not be associated with the results of the study in any way. If they desired results of the study, they were instructed that they could write their addresses on labels provided on the consent form.

After consent forms were signed, the data-collection program was booted and participants were familiarized with the data-collection procedures. All measures were presented through the Micro-Analytic Experimental Laboratory software package (MEL) (Schneider, 1988). MEL has several advantages in presenting questionnaires: Only responses within a specific range will be accepted, and also reaction time can be measured, which is one method of measuring self-concept certainty. For instance, uncertain self-concept individuals may endorse certain characteristics consistently, but they make take longer to do so than self-concept certain individuals (Baumgardner, 1990). Before starting, everyone was told to work quietly, independently, and at their own pace. After the session ended, participants were asked to disclose any hypotheses they may have generated, were given more information about the actual hypotheses, and asked if there were any remaining questions about the study. Finally, everyone was thanked for participating.

Results

Means, standard deviations, and correlations of each measure with one another are presented in Table 1. Reaction time measures of self-concept uncertainty using the BSCT

or the Me/Not Me Task did not correlate with the SCC scale; neither did the means generated using the Me/Not Me Task responses. These measures were not utilized in subsequent analyses.

As expected, greater certainty in one's self-concept was positively correlated with self-esteem, and self-esteem was negatively correlated with depressive symptomology. In addition, higher self-concept certainty scores were also significantly negatively correlated with BDI-SF scores.

To explore the relationship between self-concept clarity, self-esteem and risk for depression in more depth, a hierarchical regression was conducted with depressive symptomology as the outcome variable and self-concept uncertainty and self-esteem as predictors; this analysis was conducted to uncover how much unique variance in risk for depression each predictor explained. Self-concept uncertainty was entered on the first step, followed by self-esteem on the second step. Combined, both predictors explained 39.5% of the variance, $p<.0001$. Self-concept uncertainty alone explained 18% of the variance. However, self-esteem explained an additional 21% of the variance in depressive symptomology above and beyond that explained by self-concept uncertainty (see Table 2).

Study 1 Discussion

As predicted (Baumgardner, 1990; Campbell et al., 1990), this study found that individuals with lower self-esteem also tended to experience more uncertainty in their understanding and thoughts about the self. Also supporting previous research, the current study found that individuals having higher self-esteem scores were at lower risk for depression. Extending this research, it was found, as hypothesized, that self-concept uncertainty was also associated with greater depressive symptomology. However, although self-concept uncertainty accounted for a significant percentage of the variance in depression scores, self-esteem accounted for the more significant proportion of the overall

explained variance, an additional percentage beyond that explained by self-concept uncertainty. This was somewhat contrary to predictions, but consistent with previous research that implicates a strong connection between self-esteem and depression (Butler et al., 1994; Harter, 1993).

These results, however, are limited. All measures of self-concept uncertainty administered in this study did not intercorrelate; to make matters more confusing, some intercorrelated with one measure but not another. Based on results in previous studies, this was unexpected, and problematic. One possible explanation is that participants were still becoming acquainted with the questionnaire procedure as they responded to the questions and this may have influenced both how they responded to the first questions and/or how long it took to respond. Therefore, the reaction times measured in this study may not actually be measuring an individual's uncertainty regarding possessing certain traits, but one's level of familiarity with computerized data-collections procedures, or even one's level of familiarity with computers. Unfortunately, no steps were taken to control for this possibility, yet it could explain why the reaction time measures failed to correlate with other measures of self-concept uncertainty, as found by other researchers (Campbell, 1990).

Most importantly, this study was limited in compass. First, the overall level of depression in the sample was very low, indicating that few participants were actually depressed, as indexed by the Beck Depression Inventory. In addition, not all measures essential to the main hypotheses of the study were included.

Second, this study was one snapshot in time; all measures were administered in the same singular session and with only one time of measurement, self-esteem lability could not be calculated. In addition, it is impossible at this point to do anything but speculate about the direction of causality. This study is important in that it supported previously

found results and does suggest that self-concept uncertainty is related to depression, but could be improved and extended further.

To pursue further the nature of the relationship between self-concept certainty, self-esteem lability, and risk for depression, a second study was conducted. In the second study data were collected over the course of several weeks, to allow better insight into the relationships between the variables of interest. This second study also was designed to collect several repeated measures of all variables, including depressive symptomology and self-esteem. Finally, measures of emotional recognition and empathy were included in this study to assess the association between emotional intelligence, self-concept uncertainty, and depression.

Study 2

Overview of Study 2

The second study has two components: a single session at the beginning of the study where participants completed multiple questionnaires, called "START." Study 2 also contained a diary component, called "WEEK," that began approximately a week later. This second phase collected short-term longitudinal data twice a week over several weeks in order to calculate measures of self-esteem lability, but also to allow more confidence in causal conjecture because a necessary, but not sufficient, condition of causality is that independent variables must be collected before dependent variables (Feist, Bodner, Jacobs, Miles, & Tan, 1995; Rosenthal & Rosnow, 1991).

The major hypotheses examined by the present study involve the relationships among self-concept uncertainty, self-esteem lability, emotional sensitivity, and depression. Essentially, individuals with less certainty about themselves are expected to have higher self-esteem lability and report greater depressive symptomology. They are also expected to be more sensitive to external emotional information, as demonstrated by recognizing the emotional content of faces much better and being more empathetic. The constructs of self-concept uncertainty, emotion recognition, and empathy are also expected to explain a significant amount of the variance in self-esteem lability scores.

In addition, the constructs of SCC and self-esteem lability are hypothesized to be risk factors for depression through their influence on views about the self. Based on previous research, including the results found in study one, it is hypothesized that self-concept uncertainty will be a significant predictor of variance in depression scores. It is also expected that self-esteem lability will account for an additional increase in explained variance above and beyond that of self-concept uncertainty.

Method

Participants

In study two, there were 115 participants, 27 males and 84 females. Mean age was 18.82 (SD=1.11). 5.7% were African American, 2.85% were Hispanic, 6.6% were Asian, 80.9% were Caucasian and 3.8% described their ethnicity as 'other'. Two-thirds of the sample were freshmen, 23.8% sophomores, 3.8% juniors, and 4.8% seniors. Of this sample, 35 individuals were specially solicited to participate in the study based upon their reports of depressive symptomology as indexed by the CES-D and the Beck Depression Inventory. These individuals all scored above the cutpoints of 12 for the BDI and 20 for the CES-D. All other participants were solicited through sign-up sheets. All participants received credit in full fulfillment of class requirements. There were 11 dropouts. Of these,

three asked to be removed from the study due to time constraints. The remaining dropouts were the result of lost or missing data in the sessions analyzed from the WEEK phase of the study.

Measures

See Table 3 for the schedule of measurement.

Self-Concept Uncertainty: Self-Concept Clarity (SCC). As in study one, the Self-Concept Clarity scale (Campbell et al., 1996) was given in full-scale form once, at the beginning of the present study, during START. The mean was 2.93 (SD=.80).

During the diary phase, called WEEK, participants responded to a shorter version of the questionnaires. Item selections were based on factor loadings; the SCC is composed of a single factor, therefore the items loading highest on this factor were selected for inclusion in the "WEEK" program (Campbell et al., 1996). Loadings were .65 or better for these items (Campbell et al., 1996). All statements were on a 7-point scale ranging from 1=strongly disagree to 7=strongly agree and included the following items: "My beliefs about myself often conflict with one another," "Sometimes I feel I am not really the person I appear to be," "My beliefs about myself seem to change frequently," "If I were to describe my personality, my description might end up being different from one day to the next." The four items given at each time period were averaged to obtain a mean SCC score for each of the first four sessions, resulting in each participant having four SCC mean scores. These original four means of interest correlated .70 or higher with one another and each mean correlated .60 or higher with the full-scale score obtained from the START session (see Table 4). Crohnbach's alpha for the four means was .94. These four means were then summed together for each person and divided by four to create a final SCC score for each participant. Higher scores indicate more uncertainty about the self.

Self-Esteem: The Self-Esteem Questionnaire (Rosenberg, 1965) was given in full form twice prior to the WEEK component of the present study, once in a mass-testing session and again about two weeks later in the START session (or beginning) of the present study. The correlation between these two full-scale administrations of the Self-Esteem Questionnaire was .83. Crohnbach's alphas for these two times of measurement were both above .92.

The questionnaire was also given in short version, containing four items, during the WEEK sessions. The items were presented on a seven-point scale, ranging from 1=strongly disagree to 4=neither disagree nor agree to 7=strongly agree. Two positively worded statements and two negatively worded statements were selected: "All in all, I am inclined to feel like a failure," "At times I think I am no good at all," "I take a positive attitude towards myself," and "On the whole, I am satisfied with myself." The negatively worded items were recoded so that higher scores indicate higher self-esteem. The scores for the four items given at each time period were averaged to obtain a mean self-esteem score for each of the first four sessions, resulting in each participant having four mean self-esteem scores. The means for these four times correlated with one another at .74 or higher. The four session means also correlated highly with the scores obtained with the administrations of the full scale at mass-testing and the START session. When correlating the WEEK scores with the mass-testing scores and scores obtained at START, correlations ranged between .47 and .60, significant at the .01 level. That these four items were representative of the entire scale scores is evidenced by their correlations with the full scale. (See Table 5 for means, standard deviations, and correlations.) Crohnbach's alpha for the four WEEK means was .94.

Self-Esteem Lability: Participants' scores on the Self-Esteem Questionnaire (Rosenberg, 1965) were used to calculate self-esteem lability. Three self-esteem lability

scores resulted from the calculation of difference scores. The change in self-esteem scores between the first time of measurement and the second became one measurement of lability; difference scores were also calculated between time two and time three, and time three and time four, resulting in three measures of self-esteem lability. The absolute values of these scores were then added together to obtain one total measure of lability. Higher scores indicated more change across all times of measurement, or greater lability. Also, to address the possibility of that self-esteem lability is a better predictor of risk for depression only when its interaction with trait level of self-esteem is considered (Kernis et al., 1991), all individuals' mean self-esteem score from the four week sessions were multiplied by their total self-esteem lability scores to obtain a trait self-esteem by self-esteem lability product term.

Depression: BDI-SF. Described in greater detail above, the BDI-SF (Beck & Beck, 1972) was given in full form twice prior to the beginning of the WEEK phase of the study. One administration was during a mass-testing session in the beginning of the spring semester; the second administration occurred approximately two weeks later during the START phase of the present study. The correlation between these two administrations was .71. For this scale, higher scores indicate higher levels of depressive symptomology. This measure was not given in abbreviated version during the WEEK phase.

Center for Epidemiological Studies Depression Scale (CES-D). Developed by Radloff (1977), the CES-D contains 20 statements describing symptoms of depression and was designed and validated on non-clinical populations. Items ask participants to indicate how often over the past week that they have experienced certain symptoms. Items were on a four point scale, ranging from 0, 'rarely or none of the time (less than one day)' to 3, 'most or all of the time (5-7 days)'. Statements include: 'I had trouble keeping my mind on what I was doing,' 'I had crying spells,' 'I enjoyed life,' and 'I felt sad.' Items were totaled to

obtain a risk for depression score. Scores obtained from the CES-D can range from 0 to 60, with higher scores indicating higher levels of depressive symptomology; scores at or above 20 are generally considered to be at risk for a depressive episode. This measure was given in full form once, during mass-testing. It was not given in the START or WEEK phase.

The correlation between the BDI-SF at mass-testing and the CES-D was .82. The correlation between the BDI-SF at START and the CES-D was .70. Therefore, these measures were converted to z-scores and combined to create a total depression score.

Emotional Recognition: Balanced Emotional Empathy Scale (BEES). Developed by Mehrabian (1996), this measures sensitivity to and sharing of another's affective experience. This measure was adapted from a previous empathy measure, Emotional Empathic Tendency Scale (EETS) (Mehrabian & Epstein, 1972), to incorporate more of the research on empathy that has occurred since the original scale's formulation. For internal consistency, Mehrabian (1996) reported an alpha coefficient of .87. BEES is highly positively correlated (.77) with the earlier EETS scale. In establishing BEES' validity, Mehrabian (1996) found that individuals scoring high in empathy as measured by the BEES also were more likely to be physiologically responsive to emotional stimuli, be more emotional, and be more altruistic towards others in need. For further discussion of reliability and validity, see Mehrabian (1996).

The full scale of BEES was given once, during START, and contains 30 items and responses range from -4 (very strong disagreement) to +4 (very strong agreement). The scale contains 15 positively and 15 negatively worded items. To compute the total empathy score, all the negative items were first summed together, the positive items were then summed, and the two scores were combined. A person can, therefore, have either a negative or positive empathy score. The mean for the full scale was 1.62 (SD=1.02).

A shortened version of the BEES scale (Mehrabian, 1997) was administered as a part of the diary phase of the present study. For the WEEK sessions, BEES was on a 7-point scale, anchored by 1=strongly disagree on one end of the scale and 7=strongly agree on the opposing end of the scale. All BEES items loaded highly on a single factor labeled "emotional empathy" (Mehrabian, personal communication, 1997). Therefore, the four items to be included from this scale were selected based on theoretical link to the hypotheses of the study; these items focused mainly on vicarious experience of others' emotions, emotional contagion. Items included "I did not get overly involved with a friend's problem," "The sadness of a close one easily rubbed off on me," "I was not affected easily by the strong emotions of people around me," and "Another's happiness was very uplifting for me." For the WEEK sessions, the negatively worded items were recoded so that higher scores indicated greater empathic tendencies and the items were averaged to obtain an empathy score for each session. The WEEK means for these items significantly correlated with one another from .41 to .56, all significant at the .01 level. The four BEES WEEK means were then averaged for each individual to create one final grand mean for each participant. The only significant correlation between the WEEK means and the full-scale BEES administration was the correlation between the first WEEK BEES mean and the BEES scale administered at START, .43. No other WEEK mean correlated significantly with the full scale administration. (See Table 6 for means, standard deviations and correlations.)

The Japanese and Caucasian Facial Expressions of Emotions (JACFEE). The full measure contains 56 color photographs of eight different people depicting seven different emotions: anger, disgust, contempt, fear, sadness, surprise, and happiness (Matsumoto & Ekman, 1988). There is an equal number of emotional depictions, male and female faces, and Asian and Caucasian faces. These slides have been tested extensively across many

cultures and all faces have been scored using Ekman and Friesen's (1978) Facial Action Coding System to insure consistency in muscular display across each of the eight expressions for each emotion (Matsumoto & Ekman, 1994). General procedure requires the participant to view each slide for a equal amount of time, and then make a judgment of which emotion was being expressed. Twelve JACFEE slides of Caucasian people were presented in this study, two each depicting anger, disgust, fear, happiness, sadness, and surprise. Half of the participants received one randomized order; the other half received a second randomized order. This measure was given once, during the START session in the beginning of the present study. The responses were coded as follows: for a correct identification, participants received a "hit" which was scored as a "1"; an incorrect identification was scored as a miss and coded as a "0". The total number of hits became the person's accuracy score. Higher scores indicate a better ability to recognize emotions. The mean was 10.98 (SD=1.06).

Correlations between JACFEE and BEES (both full scale and WEEK sessions) were not significant, and therefore seem to be measuring different components of emotional sensitivity. The former appears to be more recognition, whereas the latter appears to be more vicarious experience.

Procedure

The second study utilized data collected at several time periods, including data collected during a mass-testing session which occurred in the second week of February, prior to the present study (see Table 3 for schedule of measurement). At this session, participants completed the Beck Depression Inventory (Beck & Beck, 1972), the CESD, the Rosenberg Self-Esteem Questionnaire (1965). Based on their depression scores, 35 participants were contacted directly by phone and asked to participate in a study described as "personal development over time". All other participants signed up for the study based

on information listed on sign-up sheets. Both groups were presented the same information and completed the same measures.

The data for this study were part of a larger study containing three distinct phases. The current study utilized data from two of those phases, "START" and "WEEK" (see Table 3 for measurement schedule). All individuals first participated in an initial session at the beginning of the study, labeled "START." Individuals participated in this session during the last week of February. During this initial session, participants completed full-scale versions of SCC (Campbell et al., 1996), Self-Esteem (Rosenberg, 1965), BDI-SF (Beck & Beck, 1972), Balanced Emotional Empathy Scale (BEES) (Mehrabian, 1996). A short version of the measure Japanese and Caucasian Facial Expressions of Emotions (Matsumoto & Ekman, 1988) was also given during START. At this session, groups of six to 15 participants were advised of their rights and given a more detailed description of the general nature of the study. After signing consent forms, all participants were assigned a computer terminal, given a disk with their subject number on it and given verbal instructions on how to begin the computerized data collection program (MEL) (Schneider, 1988). Participants were told to work quietly, independently, and at their own pace. The SCC, Self-Esteem Questionnaire, and the BDI-SF were presented through MEL. BEES and JACFEE were presented in paper form. After this session was completed, participants were given information concerning Phase II of the study, labeled "WEEK."

The "WEEK" phase of the study was designed as a diary study and involved repeated sessions over several weeks. The program completed at every session contained many scales, including short versions of the Self-Esteem Questionnaire (Rosenberg, 1965), SCC (Campbell et al., 1996), and BEES (Mehrabian, 1996). The number of items per scale were limited to four items due to the fact that participants were expected to run the program twice a week. This decision was made partially because it was decided that

including abbreviated scales was more desirable to having participants becoming inattentive, bored, or frustrated with programs that were too long, which has the potential for resulting in poorer quality data. The four items chosen from each scale were selected based on previously published factor analysis data and/or theoretical reasons (see above for more detail).

The "WEEK" phase ran from February 26 to April 24. In this phase the participants took home a pre-programmed disk and ideally completed the questions included in the program twice a week for ten weeks, on Wednesday and Sunday evenings. Participants were given instructions on how to access the "WEEK" program from any IBM compatible computer and told what to expect once it began running. These instructions were also distributed to the participants on an instruction sheet that they could take with them to refresh their memories. They were then given a disk with the two researchers' names, phone numbers, and email addresses printed on the front. The front of the disk also contained their subject number, which they were informed would be used when accessing the programs. Participants were instructed on procedure concerning "missed" days and were told that they would be reminded by email the day before to use the program on Wednesdays and Sundays; participants were also instructed to call or email us with any problems or concerns. For instance, if a participant missed running the program on Wednesday, they were told to email either experimenter as soon as possible and run WEEK on Thursday, but no later; they then completed the program on Sunday as usual to get back on the schedule. Also, participants were instructed to contact either researcher at any time regarding any other problems, questions or concerns about the study.

At two points in the "WEEK" phase, all participants had to return to the experimenter to exchange old disks and pick up new disks. The first exchange was due to

a minor program malfunction. The data collected prior to this first exchange of disks was not used in the present study. The second exchange was pre-planned and had been explained to participants prior to their consent to the study. This exchange occurred half way through the WEEK phase, which then continued for five more weeks, with participants continuing to run the program on Wednesdays and Sundays. This was scheduled for several reasons, including to check student participation. For the purpose of this study, WEEK sessions between March 5 and April 24 were used. However, participation became much more sporadic after the first few sessions; some participants followed the session schedule very closely, while others skipped several sessions and resumed participation after some amount of time had elapsed. To make matters more complicated, some individuals skipped only one or two sessions, while others skipped almost a month, creating unequal intervals between sessions among participants. Fortunately, most individuals did complete the first diary sessions as instructed. Therefore, to avoid the potential problem of varying intervals among participants, participants' first four sessions were used to provide data for the present study. In addition, Kernis et al. (1991, 1992, 1993) had also collected data over a four day period in previous research. For the analyses in the current study, all participants had four sessions. For most individuals, these sessions ran between March 5 and March 25. The average intervals between these four sessions ranged from 4.45 days (SD=2.43) to 4.68 days (SD=2.55); most individuals had intervals of four to five days (as expected), although an occasional interval for a minority of participants was as short as three days or as long as six days. Any participant who deviated significantly from the average, or had multiple sessions completed on the same date, was eliminated from analyses.

Results

See Table 7 for means, standard deviations and correlations among self-concept uncertainty, self-esteem lability, emotional recognition, empathy, and symptoms of depression. The mean for the administration of the BDI-SF at mass-testing was 9.90 (SD=8.09). The mean for the BDI-SF at START was 9.06 (SD=8.14). The mean for the CES-D was 19.10 (SD=13.23). These sample scores are close to, but still below, the generally accepted cut-point for the BDI-SF and CES-D, respectively. Therefore, although a portion of the participants in this study were selected based on their scores on these scales, very few, if any, of this sample is actually clinically depressed.

As expected, many of the variables of interest were significantly correlated. As expected, SCC was significantly correlated with global self-esteem ($r(104)=-.75$, $p<.01$), self-esteem lability ($r(104)=.23$, $p<.05$) and BEES (emotional empathy) ($r(104)=.24$, $p<.05$); SCC was also highly correlated with depressive symptomology ($r(87)=.70$, $p<.01$). Global self-esteem was also significantly negatively correlated with depression ($r(90)=-.62$). Contrary to predictions, self-esteem lability did not correlate with risk for depression and the two measures of emotional sensitivity, BEES and JACFEE, did not correlate with each other, self-esteem lability, or depression. The self-esteem level x stability product term correlated with the measure of self-esteem lability ($r(106) = .93$, $p < .01$.; it failed to significantly correlate with symptoms of depression.

To explore the relationships between the variables more fully, data were analyzed through hierarchical linear regression. The first regression conducted addressed the hypothesis concerning the ability of SCC and emotional sensitivity to predict the variance in self-esteem lability scores (see Table 8). In the first step SCC was entered, followed by empathy (BEES) and emotional recognition (JACFEE). All three predictor variables together predicted nine percent of the total variance in self-esteem lability scores, $p< .05$.

Self-concept uncertainty alone accounted for 5% (sr^2=.04); empathy explained one additional percent above that explained by self-concept uncertainty and emotion recognition (sr^2 =.01), and emotional recognition explained an additional three percent above and beyond that explained by self-concept uncertainty (sr^2=.03).

A second hierarchical regression was conducted with depression as the outcome variable to address the hypothesized relationships between self-concept uncertainty, and the two measures of emotional sensitivity, and self-esteem lability (see Table 9). In the first step on the regression, self-concept certainty was entered into the regression. Empathy was entered in the second step, followed by emotional recognition. Self-esteem was entered on the fourth step, followed by self-esteem lability, then the self-esteem level by self-esteem lability product term. Combined, the six predictor variables explained 50% of the variance, $F(4, 84)=20.31$, $p<.0001$. Upon closer inspection, however, it was revealed that self-concept uncertainty was the only variable to explain a significant amount of the variance in depressive symptomology. However, the amount of variance explained by trait self-esteem over and above self-concept uncertainty approached significance (sr^2=.02, p=.06). The other variables, empathy, emotional recognition, self-esteem lability and the self-esteem level by stability interaction term combined explained less than 1% additional variance. This analysis was conducted again using only the depressed subsample. Global level of self-esteem still approached significance (sr^2=.08, $p < .06$). Again, neither self-esteem lability nor the self-esteem level by stability product explained any additional variance in depressive symptomology.

Study 2 Discussion

There were two main hypotheses in study 2. The first hypothesis concerned self-esteem lability. It was expected that self-concept uncertainty and the two measures of emotional sensitivity all would be significant predictors of variance in self-esteem lability.

Although each variable was not significant by itself, all three predictor variables explained a small, but statistically significant amount of variance in the outcome variable together, with self-concept uncertainty being the strongest predictor, as expected. There was a positive significant correlation between self-concept uncertainty and self-esteem lability; when self-concept uncertainty was regressed upon self-esteem lability it did explain a significant, if small, percentage of the variance. Additional variance in self-esteem lability was explained by emotional recognition and empathy. There was also a significant correlation between self-concept certainty and empathy.

One interpretation of these findings suggests the construct of self-concept uncertainty does offer a plausible explanation for why some individuals demonstrate lability in self-esteem and why other individuals are not as prone to this instability. Previous research (Brockner, 1984; Butler et al., 1994; Campbell et al., 1991) found that many people are more dependent on, susceptible to, and influenced by both negative and positive external self-relevant stimuli. The influence these experiences have on most individuals is probably insignificant and transient. However, lacking a clearly, consistently and confidently defined sense of self can make negotiating daily life very difficult when individuals are exposed to many different situations, ideas and people. For instance, an example of a situation with positive implications would be to win the lottery; having one's car break down undoubtedly has negative ramifications. Furthermore, almost everyday, most people have contact with others who both like them and dislike them, and these people may be very verbal about their preferences. In fact, daily life often puts us in contact with others who are both happy and others who are frustrated or angry, and these moods may have absolutely nothing to do with us! In fact, although previous research has operationalized external sources of information as stressful life events and actual comments made by others, the present study suggests that, in certain situations, the

operationalization of external stimuli may be extended to emotional information as well; people with uncertain self-concepts were more sensitive to the emotions of others and this empathy was associated with instability in self-esteem. It appears that individuals with poorly defined self-concepts seem to be at an increased risk for the moods, sentiments, and statements of others to have a stronger impact on their feelings, even their feelings about themselves.

Second, self-concept uncertainty was hypothesized to be risk factor for depression through its influence on views about the self. Erikson's (1950) theory of psychosocial development emphasizes self-knowledge as essential to psychological health and well being. This view continues to be advocated today by individuals such as Baumgardner (1990), who postulates that certainty about the self is necessary for the promotion and maintenance of positive affect about the self. The strong connections between self-concept uncertainty and depressive symptomology found in this study support this view. Individuals lacking a clear, confident, certain sense of themselves had higher levels of depression. As suggested before, if one is not sure of one's traits or abilities, one is a poor master of one's life. When exposed to self-related information that is negative, an individual with more uncertainty about who they are may not be able to readily access confident views about the self to refute this negative view. Also, self-concept uncertainty is a basic lack of clear knowledge of or confidence in the basic attributes of the self; therefore, individuals high on this trait are less likely to have the ability to self-select situations or activities at which they might excel and avoid those at which they probably will fail. Because of this, they may face exposure to repeated negative evaluations and failures in various domains, which is undoubtedly a sure pathway to more negative views of the self and an increased likelihood of depression.

The relationship between self-concept uncertainty, self-esteem lability and risk for depression was not quite as clear cut as expected, however. Self-concept uncertainty and self-esteem lability were correlated, as previously mentioned. Quite unexpectedly, however, self-esteem lability, as measured in this study, did not explain any additional variance in depressive symptomology scores over and above self-concept uncertainty. In fact, self-esteem lability was not correlated with depression at all! This is in direct contrast to previous research (Butler et al., 1994; Roberts & Monroe, 1992) who found that self-esteem lability was a very significant predictor for depression-proneness. One possible interpretation of this result is that self-esteem lability is not a vulnerability factor for depression, or at least is not as strong as suggested by Butler and colleagues (1994) . However, it is important to note several possible alternative explanations. In their study, Butler and colleagues (1994) differentiated their participants into groups: currently depressed, previously depressed, and never depressed, which the present study did not do. The current study did have a small subsample of depressed individuals, however. Post hoc analyses on this subsample alone still failed to replicate Butler and colleague's (1994) finding that self-esteem lability was a significant predictor of depression.

Another area in which Butler et al.'s (1994) study differed from the current study is that they followed their participants over a time period of five months whereas the present study took place over the course of a few weeks. However, in their study, Butler et al. (1994) found that self-esteem lability often did not differ between depressed and non-depressed groups, especially the previously depressed and the never depressed, during shorter time periods, such as 30 days; in fact, they found self-esteem lability often remained elevated among vulnerable participants even when depression had remitted. Therefore, although the mean depression level of the sample did not reach the level of clinical depression, it is possible that some portion of the sample had considerable self-

esteem lability but was not currently depressed. Given the extended time period of Butler et al.'s (1994) research compared to the current study, the findings of this study could indicate that the predictive power of self-esteem lability may not be evident in shorter-term studies; it is possible that depression scores collected on the same subjects in the present study five months in the future may replicate Butler et al.'s (1994) results. It is also important to note that Butler and colleagues (1994) measured self-esteem lability somewhat differently than it was measured in the present study. In their study, they used a very intricate procedure of derivation that involved determining the impact of positive and negative daily events on each person's daily self-esteem, while controlling for general trends in those self-esteem scores from the previous day (see Butler et al. (1994) for more details). This difference, too, could help explain the present study's failure to replicate their results. Further research should be conducted to explore these possibilities.

The present study also failed to support Kernis et al. (1991), who found that self-esteem lability moderates the relationship between self-esteem and depression. Like results reported by Roberts and Monroe (1995), the current study found that the interaction of self-esteem instability and trait self-esteem did not explain a significant amount of variance in risk for depression. They did find, however, that level of self-esteem predicted depressive symptoms, irrespective of lability in self-esteem; self-esteem lability failed to explain variance in depressive symptoms over and above level of self-esteem. These results are more in line with those found in the current study. Although the variance in symptoms of depression explained by trait of self-esteem was not quite statistically significant, trait self-esteem was the only other variable to explain any additional variance over and above that explained by self-concept uncertainty. These results continued to hold in post hoc analyses conducted with the depressed subsample.

The second surprising finding in this study was the failure of emotional empathy and emotional recognition to significantly correlate. Salovey and Mayer (1989, 1990) had suggested that emotional intelligence is a coherent construct that includes the ability to recognizing emotions in others and understanding these emotions (empathy). Salovey and Mayer (1990) did, however, suggest that component skills may not be intercorrelated. The results of this study suggest that this may be true, at least for the components of emotional recognition and empathy. In fact, even many of the empathy scores failed to correlate. It is important to note, however, that not all the empathy scores obtained during the diary session correlated with the full-scale scores. The first diary session mean did correlate with the full-scale scores but the scores from sessions two, three, and four did not correlate with the full-scale scores. However, all diary session scores did correlate with one another. It is possible that the four items chosen from the Balanced Emotional Empathy Scale for the diary sessions were not representative of the full-scale, despite Mehrabian's (1996) decision to include them in the scale based on prior factor analyses. However, this finding may have been due to the fact that empathy fluctuates over time. Further research should be conducted to explore this possibility.

Another expectation of this study was to find a direct association between emotional sensitivity and depression. This hypothesis was partially based on previous research by Feist and Barron (1996), who found that "personal soundness," their operationalization of emotional intelligence, did not predict life satisfaction. In interpreting this finding, the authors suggested that emotional sensitivity might be associated with negative affect. The present study also expected emotional sensitivity to be related to depression because previous research has found that people with less certain self-concepts are more sensitive to external information than people with more certain self-concepts (Campbell et al., 1990). Based on other research (Brockner, 1984; Sullins, 1991), it was

expected that emotional information might serve as an additional source of external information, especially for individuals with unclear self-concepts.

Contrary to expectations, the present study did not find the hypothesized relationship between emotional sensitivity and risk for depression. Neither empathy nor emotion recognition correlated with depressive symptomology; in fact, the measure of emotion recognition failed to correlate significantly with any other measure. In explanation, it should be noted that there appears to be a ceiling effect for recognizing emotion. Some individuals misidentified disgust or fear, but almost everyone correctly labeled happiness or sadness. In fact, the highest possible score on this measure was 12; the mean was close to 11, with very little variance in accuracy. Although the use of overall accuracy scores is the most widely accepted method of using the JACFEE slides, one possible alternative way to explore certain emotions individually. For instance, it is possible that there may be an association between depression and accuracy at identifying sadness or other negative emotions. Or, individuals with depressive symptomology may be more likely to display a certain pattern of inaccurately identifying many emotions as sadness or anger. This speculation awaits empirical investigation.

However, although the current study did not show direct support for the hypothesis concerning emotion sensitivity and depressive symptomology, empathy was significantly correlated with self-concept uncertainty. Self-concept uncertainty was also, as expected, a significant predictor of self-esteem lability. Therefore, although the present study failed to find emotional sensitivity to be a direct risk factor for depression, empathy, in particular, may be an indirect influence through its association with self-concept uncertainy and self-esteem lability. Further, it could be argued that the current evidence contradicts Salovey and Mayer's (1990) view that components of emotional intelligence are the cornerstone to a healthy personality and essential to emotional wellbeing;

individuals who experience lability in their self-esteem, by definition, experience highs and *lows* in their feelings about themselves.

The most important result of the present study was the relationship between self-concept uncertainty and symptoms of depression; self-concept uncertainty explained a full one-half of the variance in these scores. This suggests that uncertainty about the self is a major factor in risk for depression. Given the rising levels of depression in our society, this is an important finding to explore, especially in the sense that it may offer insight into the prevention of the depression. For instance, it is possible to conceive of self-concept uncertainty as a form of dysfunctional thinking (i.e., the individual is unsure of even traits he or she obviously has). Prior research has also suggested talking and writing extensively about the self may provide individuals greater insight and certainty about their identities, which affords them a sense of control and positive affect (Baumgardner, 1990). For more severe cases, this might especially be beneficial when guided by a trained professional within a structured program. Beck has demonstrated that cognitive therapy may be helpful in preventing or halting a relapse into a depressive episode by restructuring the way the individual thinks about him or herself. It is possible that this might be one course of action in cases where self-concept uncertainty is an underlying cause of negative affect. However, preventive medicine even could be something as simple as developing a hobby or involvement in close-knit social group/club--one thing with which to identify and enjoy; either could help to ground one's self-concept and temper uncertainty and depression (Pelham, 1991).

Finally, it is important to recognize the many limitations of the current study. Erikson (1968) has suggested that one task essential to wellbeing is the achievement of a well-defined identity. According to his theory this task is the main issue during late

adolescence and early adulthood. At this time in their lives, many individuals "search for some inspiring unification of tradition..., ideas, and ideals" (1968, p. 130), seeking to merge all their prior experiences, social roles, and identity elements into a final central identity. Before achieving identity formation, Erikson indicated that many individuals may first experience what he labels "identity crisis" (p. 131), and/or identity confusion, a time during which individuals do not have a clear sense of who they are; their thoughts may be filled with doubt and conflict about their identities in many domains. In the current study, the participants were all older adolescence and young adults, all theoretically at the developmental time period in their lives during which the search for identity is likely to be a major issue. It is possible, therefore, that the scale purporting to be measuring self-concept uncertainty may be measuring elements of identity crisis or confusion; if the same participants were contacted for a follow-up study ten, five, or even two years later, the results of the current study may not hold. Future research should explore this issue by conducting studies with older adult populations.

It is also important to recognize that Erikson (1959) has also pointed out that identity crises are not always long-term or irreversible and may actually be beneficial, permitting a flexibility about the self allowing for the "searching and playful engagement of new opportunities and associations" (p. 116). Therefore, just as some individuals emerge from an identity crisis and do achieve identity formation, individuals with self-concept uncertainty may also stabilize at some point, and, in fact, experience long-term benefits in adjustment; instability can also indicate greater flexibility in one's views of the self. Flexibility in one's conceptualizations of the self has been labeled as advantageous because one can take on many different roles, making them better able to meet various situational demands (Paulus & Martin, 1988). Longitudinal investigations of self-concept uncertainty in young adults should be conducted to address this issue.

There are also two methodological issues in the current study that need to be addressed. First, to calculate self-esteem lability scores, the present study used difference scores instead of standard deviations as used by many previous researchers (Kernis et al., 1991; Kernis et al., 1993; Roberts & Monroe, 1992; Roberts et al., 1995). The decision to use the absolute difference method in the present study based partially on the use of this method in previous research (Baumgardner, 1990; Campbell, 1990). Although both methods essentially measure instability (change, fluctuations, deviations), it is possible that utilizing this different method of measurement may have had some impact on the failure of the present study to replicate findings by Kernis et al. (1991). In addition, another important issue that must be addressed involves the number of sessions included in the study. In the present study, four sessions were chosen based on the characteristics of the data. There was some concern because a portion of the sample skipped several days, and even weeks between sessions. Rather than risking introducing potentially unrelated, unpredictable confounding variables into the study, the number of sessions utilized were limited and some of the individuals were excluded from the analyses, which may have also created problems. Although four measures of each variable are better than one, it is possible that even four sessions are limited. Campbell et al. (1996) did offer evidence for the temporal stability of the SCC; the other researchers also addressed this issue with their perspective measures. Individual's responses to the same questions undoubtedly vary from day to day. Multiple measures of a variable are more desirable due to increased reliability. Therefore, it is possible that including an additional number of sessions in the current study may influence the results in some way. More sessions can also be important to gain an understanding of *how* levels of many constructs may vary at different assessments. For instance, in the current study, there is evidence that levels of empathy may fluctuate over

time.

It is also important to note that the gender ratio in the second study was almost three-to-one, favoring females. It possibly could be suggested that the high correlation between self-concept uncertainty and depression may be due, in some way, to the unequal distribution of gender, except that self-concept uncertainty was positively correlated with greater depression in Study 1 as well, where the gender ratio was almost equal. However, to address this issue, post hoc analyses were conducted to examine the relationships among self-concept uncertainty, self-esteem lability, and depression for both genders individually. For data in both Study 1 and Study 2, the results for women as a group and men as a group replicated the findings for the whole samples in every analyses except for one regression in Study 2. When analyzing the entire sample in Study 2, it was found that self-concept uncertainty, emotional recognition, and empathy together explained a significant percentage of the variance in self-esteem lability. When this regression was conducted using males only from the sample in Study 2, this finding was not replicated. Given that all other results were replicated using the male subsample, this was an unexpected finding. This suggests that the relationship between self-concept uncertainty and the emotion recognition variables with depression found in the larger sample may be due to solely to the larger female subsample. Mehrabian (1996) has found that females tend to score higher on emotional measures, especially empathy, as indicated by higher mean scores. Upon closer inspection, this too, was found in the current study; males, overall tended to have lower overall empathy scores. Self-concept uncertainty, emotional recognition and empathy together only explained 9% of the total variance in self-esteem lability, with self-concept uncertainty explaining the most variance and the emotional recognition variables explaining very little above self-concept uncertainty. Given this over-all finding, it is possible that the lower empathy scores for males was enough to decrease

the predictive power of the three variables together in the male subsample.

Finally, it is also important to recognize is that although it makes sense to describe self-esteem lability and self-concept uncertainty as "causes" of depression, it is possible that this direction may be reversed or some third variable may cause them both. For instance, there is evidence that some forms of depression are biochemical, which suggests that they may occur as a result of malfunctions in the production of or absorption of neurotransmitter, not due solely to social reasons. Depressed people often experience uncertainty and feel they are lacking basic control over their lives (Abramson et al., 1978) and may perceive and recall events selectively, to be more consistent with their negative affect. Therefore, it is possible that depression may develop first, as a bi-product of biochemical deficiencies, leading to fluctuations in both self-concept and self-esteem. Further research should address this issue to further clarify the strong association between self-concept uncertainty and depression.

References

Abramson, L. Y., Seligman, M. E., Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Altman, J. H., & Wittenborn, J. R. (1980). Depression-prone personality in women. Journal of Abnormal Psychology, 89, 303-308.

Baumeister, R. F. (1993). Understanding the inner nature of low self-esteem: Uncertain, fragile, protective, and conflicted. In R. F. Baumeister (Ed.), Self-Esteem: The Puzzle of Low Self-Regard (pp. 201-218). New York: Plenum Press.

Baumgardner, A. H. (1990). To know oneself is to like oneself: Self-certainty and self-affect. Journal of Personality and Social Psychology, 58, 1062-1072.

Beck, A. T. (1976). Cognitive Therapy and the Emotional Disorders. New York: Hoeber.

Beck, A. T., & Beck, R. W. (1972). Screening depressed patients in family practice: A rapid technique. Postgraduate Medicine, 52, 81-85.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). Cognitive Therapy of Depression. New York: Guilford.

Beck, A. T., Steer, R. A., Epstein, N., & Brown, G. (1990). Beck Self-Concept Test. Psychological Assessment, 2, 191-197.

Bloom, B. L., Asher, S. J., White, S. W. (1978). Marital disruption as a stressor: A review and analysis. Psychological Bulletin, 85, 867-894.

Brockner, J. (1984). Low self-esteem and behavioral plasticity: Some implicatins for personality and social psychology. In L. Werner (Ed.), Review of Personality and Social Psychology (Vol 4). (pp. 237-271). Beverly Hills, CA: Sage.

Butler, A., Hokanson, J, & Flynn, H. (1994). A comparison of self-esteem lability and low trait self-esteem as vulnerability factors for depression. Journal of Personality and

Social Psychology, 66, 166-177.

Campbell, J. D. (1990). Self-esteem and clarity of self-concept. Journal of Personality and Social Psychology, 59, 538-549.

Campbell, J. D., Chew, B., & Scratchley, L. S. (1991). Cognitive and emotional reactions to daily events: The effects of self-esteem and self-complexity. Journal of personality, 59, 473-505.

Campbell, J. D.,& Lavallee, L. F. (1993). Who am I? The role of self-concept confusion in understanding the behavior of people with low self-esteem. In R. F. Baumeister (Ed.), Self-Esteem: The Puzzle of Low Self-Regard (pp. 3-20). New York: Plenum Press.

Campbell, J., Trapnell, P., Heine, S., Katz, I., Lavallee, L., & Lehman, D. (1996). Self-Concept Clarity: Measurement, personality correlates, and cultural boundaries. Journal of Personality and Social Psychology, 70, 141-156.

Ekman, P., & Friesen, W. V. (1978). Facial action coding system. Palto Alto, CA: Consulting Psychologists Press.

Erikson, E. H. (1950). Childhood and Society. New York: Norton.

Erikson, E. H. (1959). Identity and the life cycle. Psychological Issues, 1, 89, 116-146.

Erikson, E. H. (1968). Identity: Youth and Crisis (pp. 91-167). New York: W. W. Norton & Company.

Feist, G. J., & Barron, F. (1996). Emotional intelligence and academic intelligence in career and life successes. Paper presented at the Annual Convention of American Psychological Association in Toronto, August 1996.

Feist, G. J., Bodner, T. E., Jacobs, J. F., Miles, M., & Tan, V. (1995). Integrating top-down and bottom-up structural models of subjective well-being: A longitudinal

investigation. Journal of Personality and Social Psychology, 68, 138-150.

Fenichel, O. (1945). The psychoanalytic theory of neurosis (pp. 20-22, 387-406). New York: Norton.

Garber J., Weiss, B., & Shanley, N. (1993). Cognitions, depressive symptoms, and development in adolescents. Journal of Abnormal Psychology, 102, 47-57.

Goleman, D. (1995). Emotional Intelligence. New York: Bantam.

Hamilton, E.W., & Abramson, L. Y. (1983). Cognitive patterns and major depressive disorder: A longitudinal study in a hospital setting. Journal of Abnormal Psychology, 92, 173-184.

Harter, S. (1993). Causes and consequences of low self-esteem in children and adolescents. In Roy Baumeister (Ed.), Self-Esteem: The Puzzle of Low Self-Regard. New York: Plenum.

Hauser, S. T., & Bowlds, M. K. (1990). Stress, coping, and adaptation. In G. R. Elliot & S. Feldman (Eds.), At the threshold: The developing adolescent (pp. 388-413). Cambridge: Harvard University Press.

Hokanson, J. E., Rubert, M. P., Welker, R. A., Hollander, G. R., & Hedeen, C. (1989). Interpersonal concommitants and antecedents of depression among college students. Journal of Abnormal Psychology, 98, 209-217.

Kernis, M. H., Granneman, B. D., & Mathis, L. C. (1991). Stability of self-esteem as a moderator of the relation between level of self-esteem and depression. Journal of Personality and Social Psychology, 61, 80-84.

Kernis, M. H., Granneman, B. D., & Barclay, L. C. (1992). Stability of self-esteem: Assessment, correlates, and excuse-making. Journal of Personality, 60, 621-643.

Kernis, M. H. (1993). The roles of stability and level of self-esteem in psychological functioning. In Roy Baumeister (Ed.), Self-Esteem: The Puzzle of Low

Self-Regard. New York: Plenum.

Kernis, M. H., Cornell, D. P., Sun, C. R., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. Journal of Personality and Social Psychology, 65, 1190-1204.

Kuiper, N. A. & Olinger, L. J. (1986). Dysfunctional attitudes and a self-worth contingency model of depression. In P. C. Kendall (Ed.), Advances in Cognitive-Behavioral Research and Therapy: Vol. 5. (pp. 115-142). Orlando: Academic Press, Inc.

Lewinsohn, P.M., Steinmetz, J. L., Larson, D. W., & Franklin, J. (1981). Depression-related cognitions: Antecednet or consequence? Journal of Abnormal Psychology, 90, 213-219.

Markus, H. & Nurius, P. S. (1984). Self-understanding and self-regulation in middle childhood. In W. A. Collins (Ed.), Development during middle childhood: The years from six to twelve. Washington, D.C.: National Academy.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. Annual Review of Psychology, 38, 299-337.

Marzillier, J. S. (1986). Changes in depressive beliefs: An analysis of Beck's cognitive therapy for depression. In P. C. Kendall (Ed.), Advances in Cognitive-Behavioral Research and Therapy: Vol. 5. (pp. 89-114). Orlando: Academic Press.

Matsumoto, D., & Ekman, P. (1988). Japanese and Caucasian Facial Expression of Emotion (JACFEE) and Neutral Faces (JACNeuF). [Slides]. San Francisco, CA: Department of Psychology, San Francisco State University.

Matsumoto, D., & Ekman, P. (1994). Commentary on "A new series of slides depicting facial expressions of affect" by Mazurski and Bond (1993). Australian Journal of Psychology, 46, 41-47.

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey and D. Sluyter (eds.), Emotional Development and Emotional Intelligence: Implications for Educators. New York: Basic Books.

Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. Journal of Personality, 40, 525-543.

Mehrabian, A. (1996). Manual for the Balanced Emotional Empathy Scale (BEEs). (Available from Albert Mehrabian, 1130 Alta Mesa Road, Monterey, CA 93940).

Paulus, D. L., & Martin, C. L. (1988). Functional flexibility: A new conception of interpersonal flexibility. Journal of Personality and Social Psychology, 55, 88-101.

Pelham, B. W. (1991). Of consequence and confidence: The certainty and importance of self-knowledge. Journal or Personality and Social Psychology, 60, 518-530.

Pelham, B. W. (1993). In Roy Baumeister (Ed.), Self-Esteem: The Puzzle of Low Self-Regard. New York: Plenum.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement,1, 385-401.

Rado, S. (1928). The problem of melancholia. International Journal of Psychoanalysis, 9, 420-438.

Rehm, L. R., & Tyndall, C. I. (1993). Mood disorders: Unipolar and bipolar. In P. B. Sutker and H. E. Adams (Eds.), Comprehensive Handbook of Psychopathology (2nd ed.). New York: Plenum Press.

Roberts, J. E., & Monroe, S. M. (1992). Vulnerable self-esteem and depressive symptoms: Prospective findings comparing three alternative conceptualizations. Journal of Personality and Social Psychology, 62, 804-812.

Roberts, J. E., Kassel, J. D., & Gotlib, I. H. (1995). Level and stability of self-esteem as predictors of depressive symptoms. Personality and Individual Differences, 19,

217-24.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton: Princeton University Press.

Rosenthal, R., & Rosnow, R. L. (1991). Essentials of behavioral research: Methods and data analysis (2nd ed.). New York: McGraw-Hill.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. Imagination, Cognition, and Personality, 9, 185-211.

Schneider, W. (1988). Micro Experimental Laboratory: An integrated system for IBM-PC compatibles. Behavior Research Methods, Instrumentation, and Computers, 20, 206-217.

Sullins, E. (1991). Emotional contagion revisited: Effects of social comparison and expressive style on mood convergeance. Personality and Social Psychology Bulletin,17, 166-174.

Table 1
Study 1: Means, Standard Deviations, and Correlations between Measures

	SCC	Me/Not Me(mean)	Me/Not Me(rt)[+]	BSCT (rt)	Self-Esteem	Depression
Self-Concept Certainty:						
1. SCC (M=3.12 SD=.64)	-	-.13	.10	.02	.55*	-.43*
2. Me/Not Me (mean) (M=1.43 SD=.16)			-.11	-.10	.04	-.08
3. Me/Not Me (rt) (M=2.77 SD=.70)	-			.50*	.00	.02
4. BSCT (rt) (M=5.05 SD=1.33)					.12	.06
Self-Esteem (M=3.96 SD=.50)	-					-.62*
Depression (M=7.26 SD=5.82)						

[+]rt=reaction time
*p<.001
N=66

Table 2

Study 1: Summary of Hierarchical Regression Analysis for Variables Predicting Depressive Symptomology

Predictor Variable	R^2 cumulative	R^2 change	Beta	sr^2
Self-Concept Uncertainty	.18	.18	-.43*	.01
Self-Esteem	.39	.21	-.62*	.21

$F(2,63)=20.51$, $p< 0.0001$, $R^2=.39$.

*$p<.0001$

Table 3

Schedule of Measurement in Study 2

Construct	Mass-Testing Session (Second week in February)	"START" (Last week in February)	"WEEK" (March 5-March 25)
Self-Concept Uncertainty		SCC (full scale)	SCC (four items)
Self-Esteem	Self-Esteem Questionnaire (full scale)	Self-Esteem Questionnaire (full scale)	Self-Esteem Questionaire (four items)
Depression	BDI-SF (full scale) CES-D (full scale)	BDI-SF (full scale)	
Emotion Recognition		BEES (full scale) JACFEE (full scale)	BEES (four items)

Table 4

Study 2: Means, SD, and Correlations for Measures of SCC

	1	2	3	4	5
1. SCC mean (M=3.45, SD=1.49)	-	.74*	.74*	.70*	.60*
2. SCC mean (M=3.46, SD=1.62)			.85*	.80*	.66*
3. SCC mean (M=3.43, SD=1.56)			-	.86*	.68*
4. SCC mean (M=3.27, SD=1.44)					.63*
5. SCC (full scale) (M=2.97 SD=.80)					

*$p \leq 0.01$ (two-tailed).
Ns range from 101 to 104.

Note. 1-4 are session means, in temporal order; 'SCC' denotes the full-scale measure given in START phase of Study 2.

Table 5

Study 2: Means, SDs, and Correlations for Measures of Self-Esteem

	1	2	3	4	5	6
1. SE (M=4.99, SD=1.31)		.75*	.84*	.81*	.58*	.60*
2. SE (M=4.97, SD=1.19)			.74*	.74*	.47*	.50*
3. SE (M=4.95, SD=1.18)				.80*	.55*	.60*
4. SE (M=4.99, SD=1.13)					.55*	.55*
5. SE (MT) (M=3.86 SD=.79)	-					.83*
6. SE (START) (M=3.63 SD=.79)						

*p ≤ 0.01(two-tailed).
Ns range from 95 to 106.

Note. 1-4 are session means, in temporal order; SE (MT) administered in mass-testing session; SE (START) administered in START phase of study.

Table 6

Study 2: Means, SDs, and Correlations for Measures of Emotional Sensitivity

	1	2	3	4	5	6
1. BEES (M=4.05, SD=1.17)	-	.40*	.41*	.42*	.43*	.10
2. BEES (M=4.12, SD=1.01)			.55*	.51*	.09	-.07
3. BEES (M=3.96, SD=.97)				.56*	.11	-.11
4. BEES (M=3.99, SD=.97)					.09	.02
5. BEES (START) (M=1.62 SD=1.02)						-.14
6. JACFEE (M=10.97, SD=1.06)						

*$p \leq 0.01$ (two-tailed).
Ns ranged from 88 to 106.

Note. 1-4 are session means, in temporal order; BEES (START) was full scale measure administered in START phase of study.

Table 7

Study 2: Correlations Between All Major Variables

	1	2	3	4	5	6	7
1. SCC (M=2.94 SD=.80)	-	.24*	-.09	-.75**	.23*	.02	.70**
2. BEES (M=1.62 SD=1.02)			-.05	.22*	.12	.14	.07
3. JACFEE (M=10.98, SD=1.09)				.00	-.19	-.18	.01
4. Global Self-Esteem (M=4.86 SD=1.24)					-.14	.15	-.62
5. Self-Esteem Lability (M=1.66, SD=1.43)		-	-			.93**	.18
6. Self-Esteem Level x Stability	-						-.01
7. Total Depression							

*$p \leq 0.05$ (two-tailed).
**$p \leq 0.01$ (two-tailed).
Ns range between 87 to 106.

Table 8

Study 2: Summary of Hierarchical Regression Analysis for Variables Predicting Self-Esteem Lability

Predictor Variable	R^2 cumulative	R^2 change	Beta	sr^2
1. Self-Concept Uncertainty	.05	.05	.20*	.05
2. Emotional Recognition (JACFEE)	.08	.03	-.17*	.03
3. Empathy (BEES)	.09	.01	.09*	.01

$F(3, 98)= 3.14$, $p< .05$, $R^2=0.09$.

*$p<.05$

Table 9

Study 2: Summary of Hierarchical Regression Analysis for Variables Predicting Symptoms of Total Depression

Predictor Variable	R^2 cumulative	R^2 change	Beta	sr^2
1. Self-Concept Uncertainty	.50	.50	.71*	.45
2. Emotional Recognition (JACFEE)	.50	.00	.08	.01
3. Empathy (BEES)	.50	.00	-.01	.00
4. Self-Esteem	.50	.02	-.23	.05
5. Self-Esteem Lability	.50	.00	.04	.00
6. Self-Esteem Level X Lability	.50	.01	-.46	.01

$F(6, 84)= 15.16$, $p<0.0001$, $R^2=0.50$.

*$p<.0001$

Appendix A

Study 1: Consent Form

The general nature of the study by Carol Wilson has been explained to me. I understand that I will be asked to complete a series of computerized questionnaires. I further understand that my responses will be confidential and that my name will not be associated with any results of this study. I have been informed that I may refuse to answer any question I find personably objectionable and that I may discontinue participation at any time. I further understand that any grade, credit, or payment for participation will not be affected by my responses or by my exercising of any of my rights. I am aware that I may report any dissatisfaction with any aspect of this study to Dr. Robert Johnston, Psychology Department Chair. I also understand that I must be 18 years or older to take part in this study. By signing, I am declaring that my participation in this research is voluntary.

Date: _____ Printed name:_____

Professor: _____

Signature:_____

Appendix A (continued)

Study 2: Consent Form

The general nature of this repeated measurement personality study conducted by Rebecca Plesko and Carol Wilson has been explained to me. I understand that there are three phases to the study, START, WEEK, and FINISH. In each phase, I will be answering short questionnaires (sentence completions and personality items) on the computer, and I know the entire study runs over ten weeks. I further understand that my responses will be confidential and that my name will not be associated with any results of the study. I know that I may discontinue participation at any time. I also understand that any grade, payment, or credit for participation will not be affected by my responses or by my exercising of my rights. I am aware that I may report dissatisfaction with any aspect of this experiment to the Psychology Department Chair. I am aware that I must be at least 18 years old to participate. My signature below signifies my voluntary participation in this project.

Date _____

Signature PRINT NAME

____ Yes, I would like a copy of the results of this study sent to me next semester at the following email address:

_____.

Psychology Professor:

_____

Appendix B

Measures

Self-Concept Clarity (Campbell et al., 1996)

Please rate yourself on the following statements using the follow scale, by circling the number which best describes you.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1. My beliefs about myself often conflict with one another.
2. On one day I might have one opinion of myself and on another day I might have a different opinion.
3. I spend a lot of time wondering about what kind of person I really am.
4. Sometimes I feel that I am not really the person I appear to be.
5. When I think about the kind of person I have been in the past, I am not sure what I was really like.
6. I seldom experience conflict between different aspects of my personality.
7. Sometimes I think I know other people better than I know myself.
8. My beliefs about myself seem to change frequently.
9. If I were asked to describe my personality, my description might end up being different from one day to another day.
10. Even if I wanted to, I don't think I could tell people what I am really like.
11. In general, I have a clear sense of who I am and what I am.
12. It is often hard for me to make up my mind about things because I really don't know what I want.

Self-Concept Test (Beck, 1990)

Please use the following scale to indicate to the degree to which you have the following traits/or how well the following traits describe you. Circle the number which best describes you in relation to other people.

1	2	3	4	5

1)Better than anyone I know
2)Better than most people I know
3)About the same as most people I know
4)Worse than most people I know
5)Worse than nearly everyone I know

Appendix B (continued)

1. Looks
2. Knowledge
3. Greed
4. Telling jokes
5. Intelligence
6. Popular
7. Tidy
8. Successful
9. Memory
10. Sex appeal
11. Kind
12. Personality
13. Lazy
14. Athletic
15. Selfish
16. Reading ability
17. Appearance
18. Good natured
19. Independent
20. Finishing things
21. Self-conscious
22. Learning things
23. Jealous
24. Working hard
25. Cruel

Me/Not Me Task

This is a trait that many people have to varying degrees. Please indicate whether or not you think this trait describes you by pressing the 'y' key for yes and the 'n' key for no.

'y'= yes, this trait describes me
'n'= no, this trait does not describe me

1. timid
2. bold
3 proud
4. humble
5. conventional
6. unconventional
7. calm
8. nervous
9. tactful
10. candid
11. asssertive
12. soft-spoken
13. deliberate
14. spontaneous
15. gentle

Appendix B (continued)

16. boisterous
17. cautious
18. risky
19. extravagent
20. thrifty

Rosenberg Self-Esteem Scale

Listed below are a number of statements concerning personal attitudes and charcteristics. Please read each statement and consider to the extent to which you agree or disagree with it.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1. I feel that I am a person of worth, at least on an equal plane with others.
2. I feel like a person who has a number of good qualities.
3. All in all, I am inclined to feel like a failure.
4. I feel as if I am able to do things as well as most other people.
5. I feel as if I do not have much to be proud of.
6. I take a positive attitude towards myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

Beck Depression Inventory

Please read this statement carefully. Then pick out the one statement in each group that describes the way you have been feeling in the past week, including today! Be sure to read all the statements in a group before making a choice.

1. 0 I do not feel sad.
   1 I feel sad.
   2 I am so sad all the time and I can't snap out of it.
   3 I am so sad or unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel that the future is hopeless and things cannot improve.

3. 0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life, all I can see is a lot of failures.

Appendix B (continued)

3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I need to.
1 I don't enjoy things the way I used to.
2 I don't get any real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. 0 I don't feel as if I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8. 0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9. 0 I don't have thoughts of killing myself.
1 I have thoughts of killings myself, but I would never carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. 0 I don't cry anymore than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't even cry though I want to.

11. 0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated by all the things that used to irritate me.

12. 0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13. 0 I make decisions about as well as I ever could.

Appendix B (continued)

1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.

14. 0 I don't feel I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel that there are permanent changes in my appearance that make me look unattractive.
3 I believe that I look ugly.

15. 0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

16. 0 I can sleep about as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up 1-2 hours earlier than I used to and cannot get back to sleep.

17. 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18. 0 My appetite is not worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19. 0 I haven't lost much weight, if any, lately.
1 I have lost more than 5 pounds.
2 I have lost more than 10 pounds.
3 I have lost more than 15 pounds.

20. 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains, or upset stomach, or constipation.
2 I am very worried about physical problems and it is hard to think of much else.
3 I am so worried about physical problems that I cannot think about anything else.

21. 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

Appendix B (continued)
Center for Epidemiological Studies-
Depression Scale (CES-D) (Radloff, 1977)

Below is a list of the ways you might have felt or behaved. Please indicate how often you felt this way during the past week.

0 = Rarely or None of the Time (less than one day)
1 = Some or a Little of the Time (1-2 days)
2 = Occasionally or a Moderate Amount of Time (3-4 days)
3 = Most or All of the Time (5-7 days)

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people disliked me.
20. I could not 'get going.'

Balanced Emotional Empathy Scale (Mehrabian, 1996)

Please read the following statements carefully. Then indicate to what degree you agree with each statement.

+4 = very strong agreement
+3 = strong agreement
+2 = moderate agreement
+1 = slight agreement
0 = neither agreement or disagreement
-1 = slight disagreement
-2 = moderate disagreement
-3 = strong disagreement
-4 = very strong disagreement

Appendix B (continued)

1. I very much enjoy and feel uplifted by happy endings.
2. I cannot feel much sorrow for those who are responsible for their own misery.
3. I am moved deeply when I observe strangers who are struggling to survive.
4. I hardly ever cry when watching a very sad movie.
5. I can almost feel the pain of elderly people who are weak and must struggle to move about.
6. I cannot relate to the crying and sniffling at weddings.
7. It would be extremely painful for me to have to convey very bad news to another.
8. I cannot easily empathize with the hopes and aspirations of strangers.
9. I don't get caught up easily in the emotions generated by a crowd.
10. Unhappy movies endings haunt me for hours afterward.
11. It pains me to see young people in wheelchairs.
12. It is very exciting for me to watch children open presents.
13. Helpless old people don't have much of an emotional effect on me.
14. The sadness of a close one easily rubs off on me.
15. I don't get overly involved with friends? problems.
16. It is difficult for me to experience strongly the feelings of characters in a book of movie.
17. It upsets me to see someone being mistreated.
18. I easily get carried away by the lyrics of love songs.
19. I am not affected easily by the strong emotions of people around me.
20. I have difficulty knowing what babies and children feel.
21. It really hurts me to watch someone who is suffering from a terminal illness.
22. A crying child does not necessarily get my attention.
23. Another's happiness can be very uplifting for me.
24. I have difficulty feeling and reacting to the emotional expressions of foreigners.
25. I get a strong urge to help when I see someone in distress.
26. I am rarely moved to tears while reading a book or watching a movie.
27. I have little sympathy for people who cause their own serious illnesses (e.g., heart disease, diabetes, lung cancer.)
28. I would not watch an execution.
29. I get easily excited when those around me are lively and happy.
30. The unhappiness or distress of a stranger are not especially moving for me.

Facial Expression Task
Answer Sheet used with JACFEE (Matsumoto & Ekman, 1988)

Directions: You will be seeing a series of photographs of people making different facial expressions. Your job will be to decide what the person in the photograph is feeling. For each photograph, please use the number by the words in the follow list to identify the emotion displayed.

disgust
fear
happiness
sadness
anger
surprise

Appendix B (continued)

You can choose only **ONE** of these options to identify each photograph.

PHOTOGRAPH 1: _____

PHOTOGRAPH 2: _____

PHOTOGRAPH 3: _____

PHOTOGRAPH 4: _____

PHOTOGRAPH 5: _____

PHOTOGRAPH 6: _____

PHOTOGRAPH 7: _____

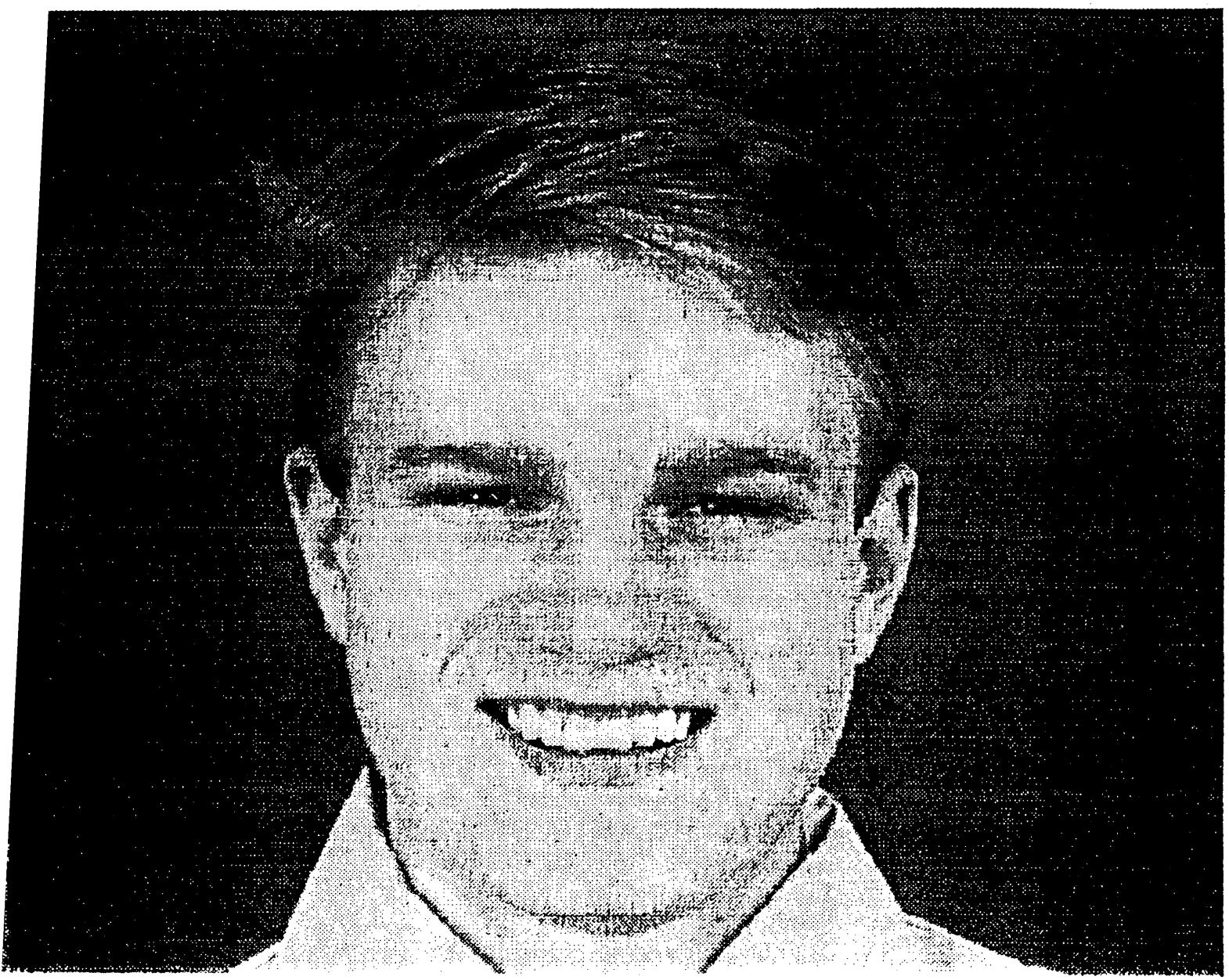
PHOTOGRAPH 8: _____

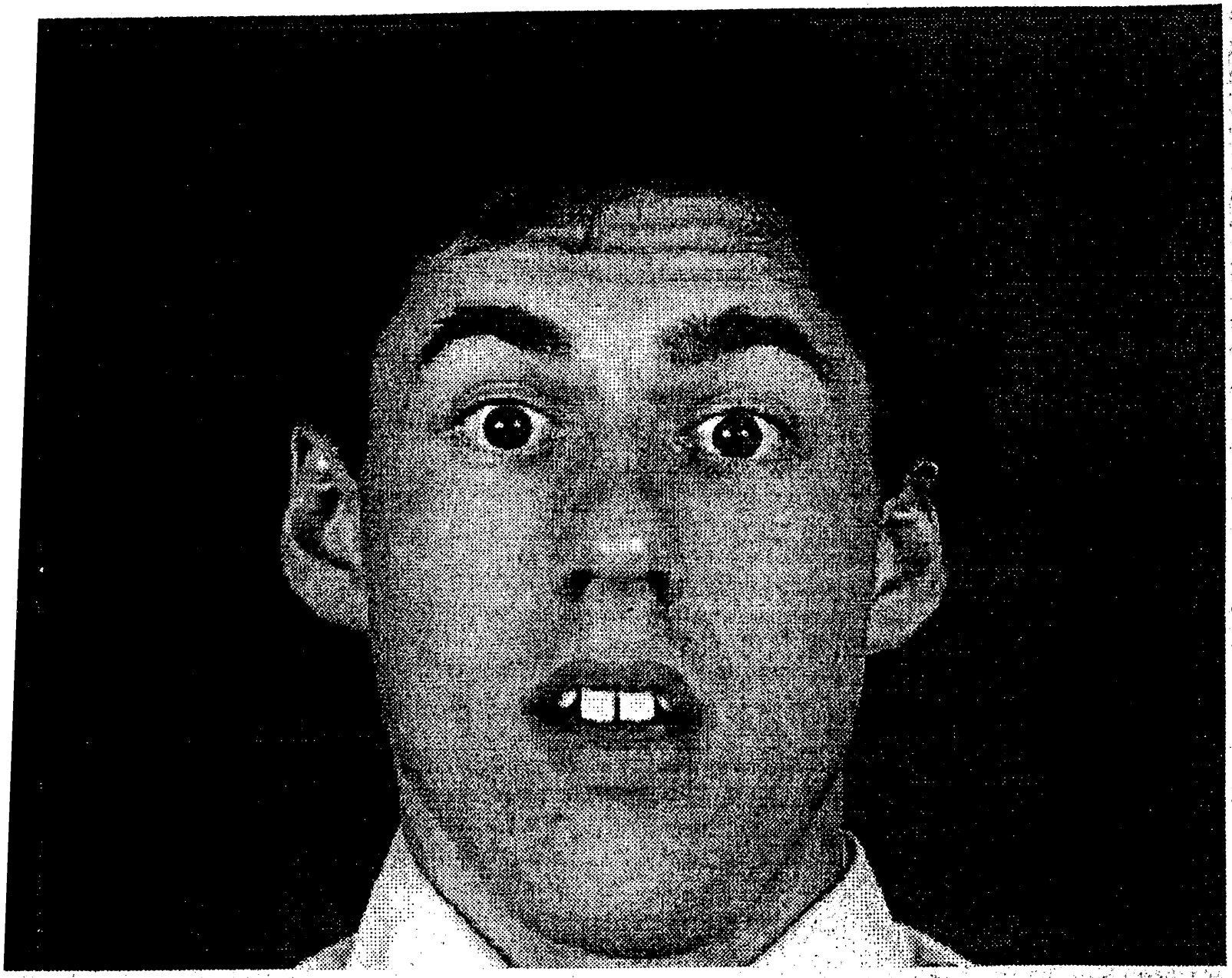
PHOTOGRAPH 9: _____

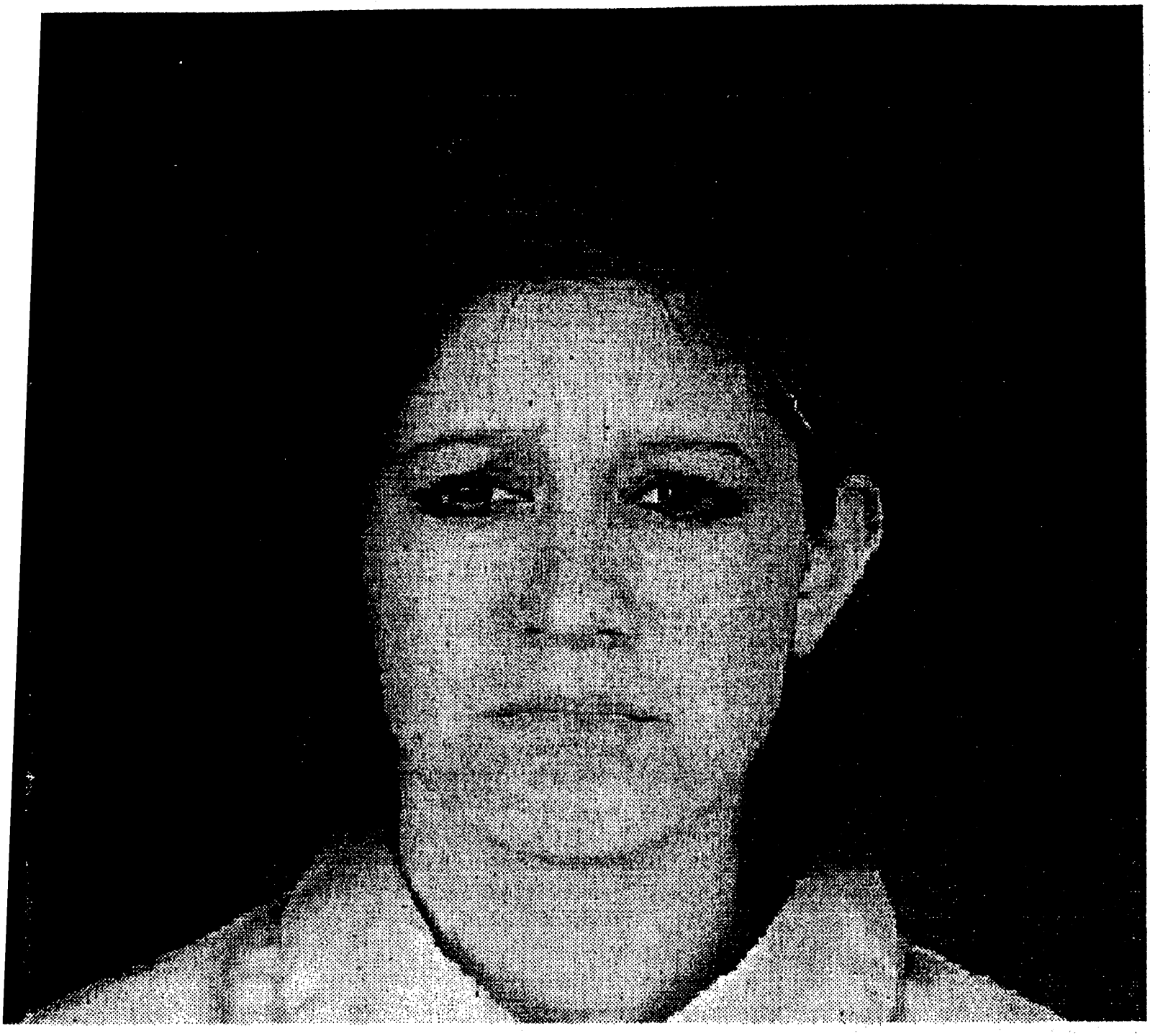
PHOTOGRAPH 10: _____

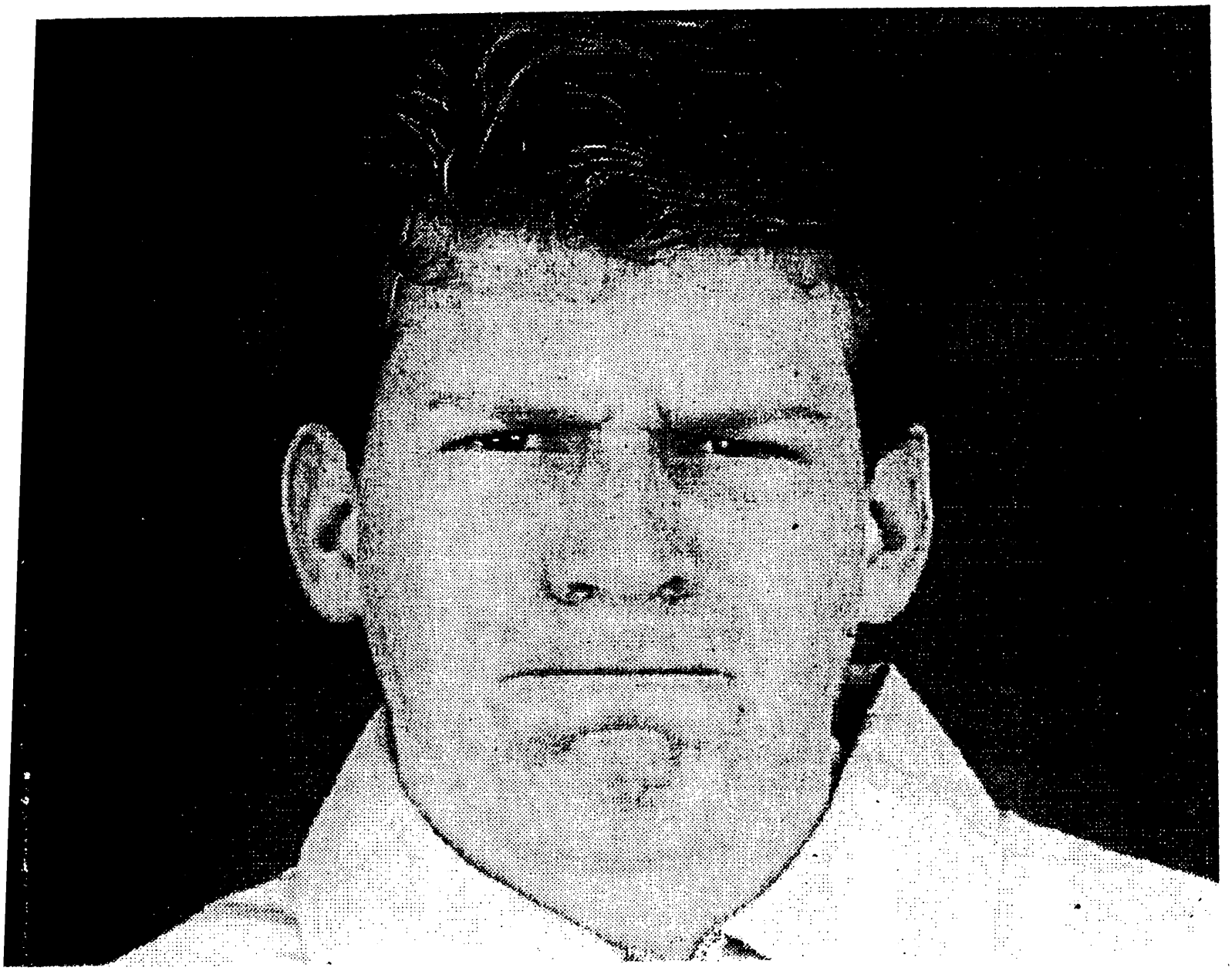
PHOTOGRAPH 11: _____

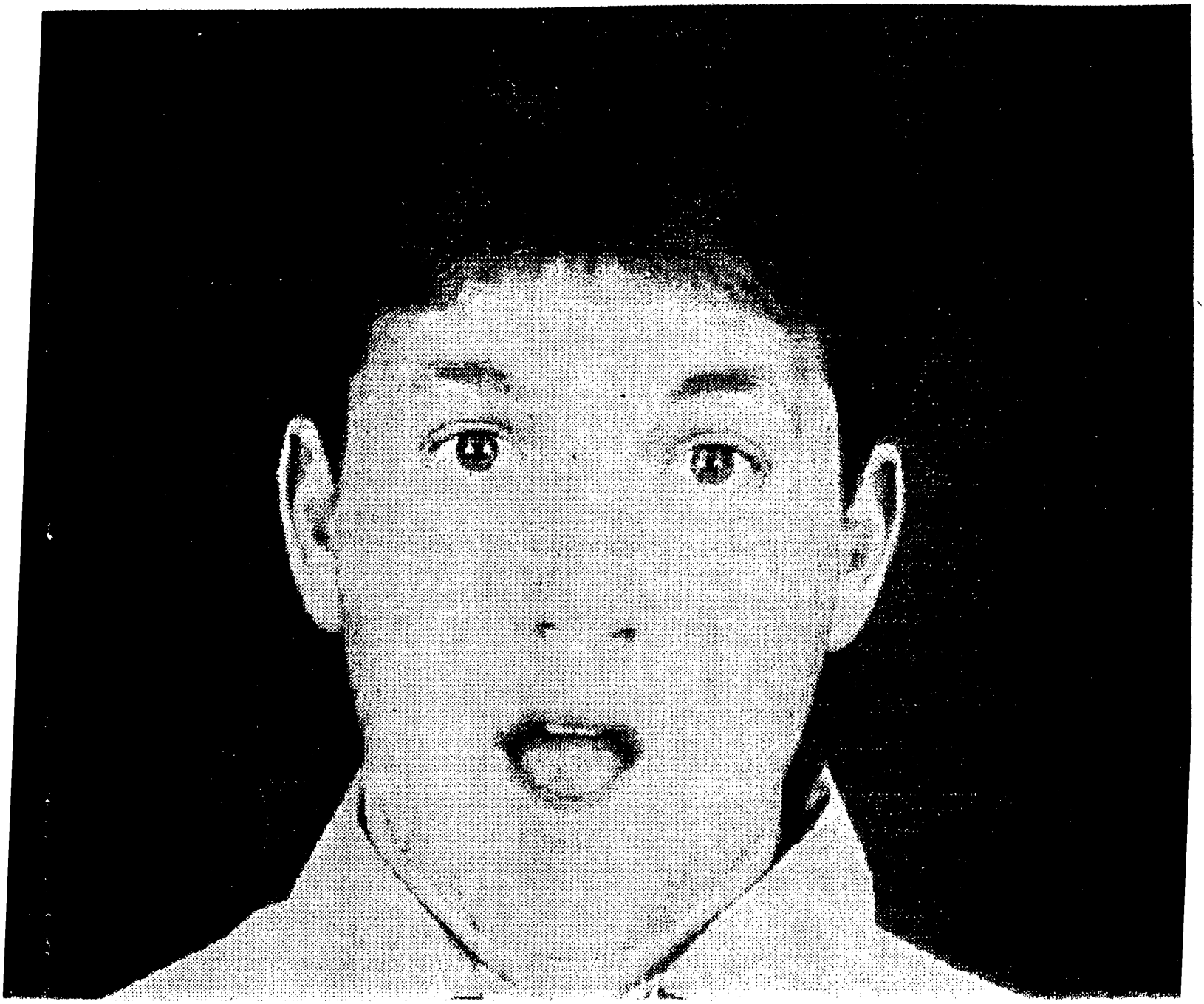
PHOTOGRAPH 12: _____

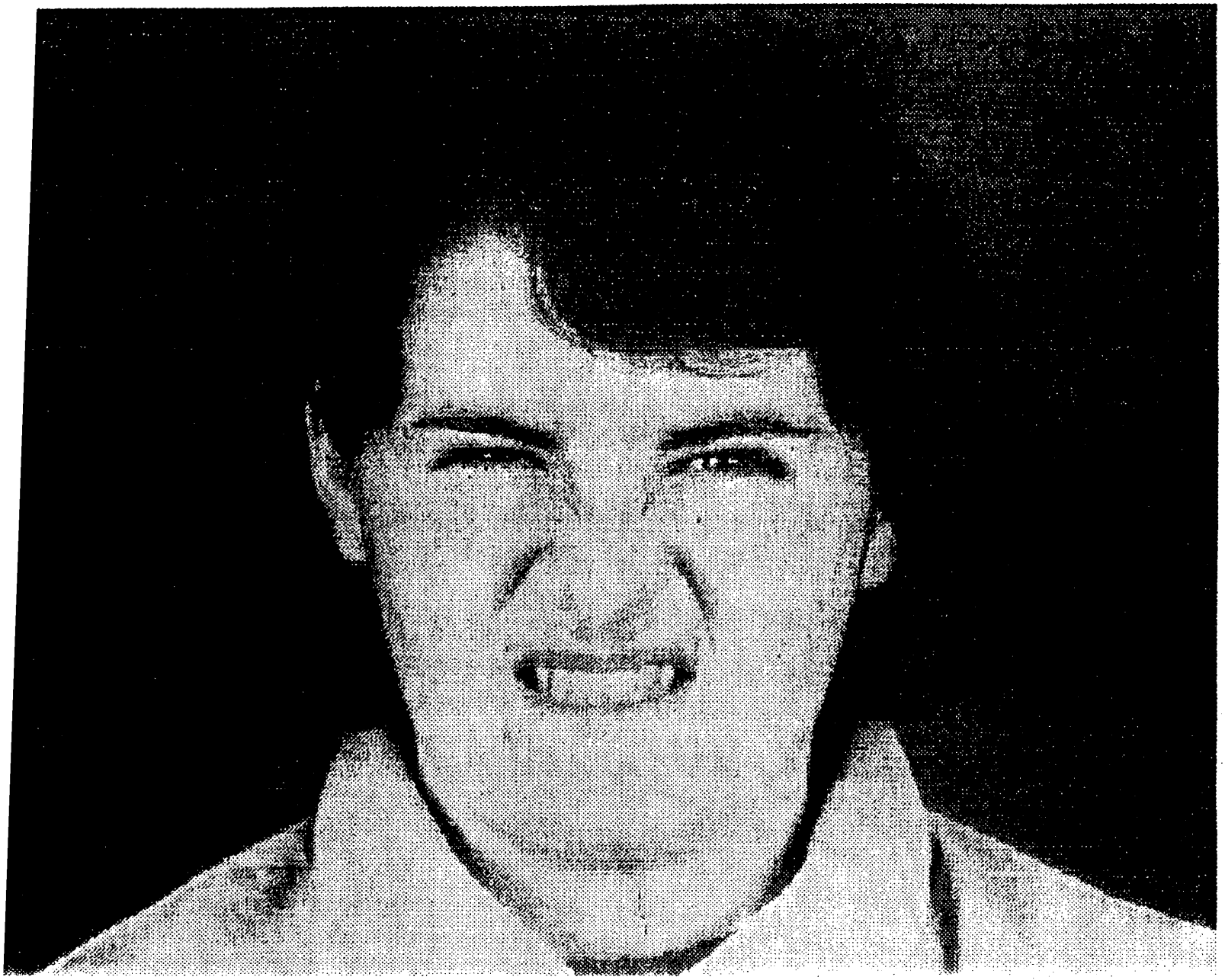


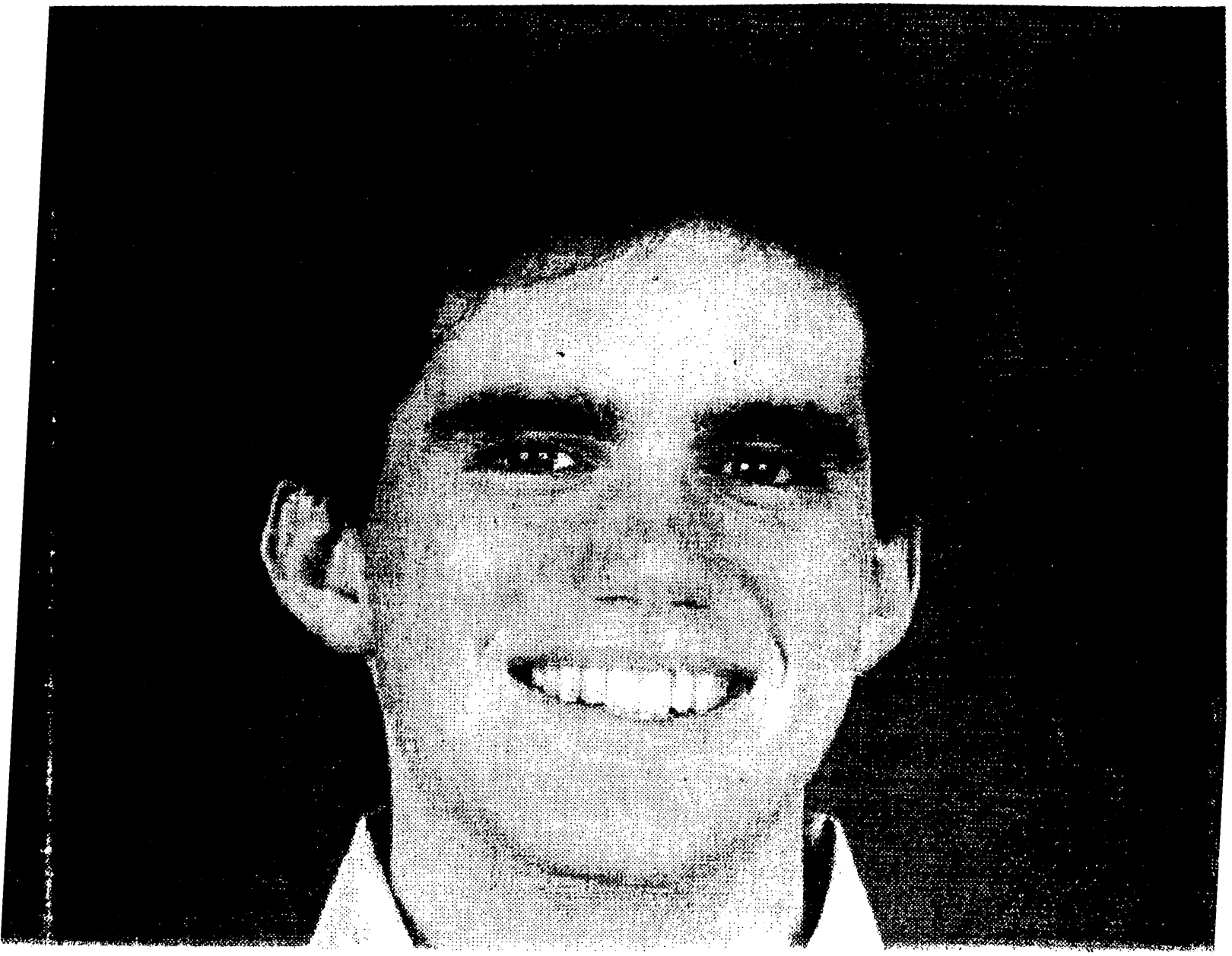


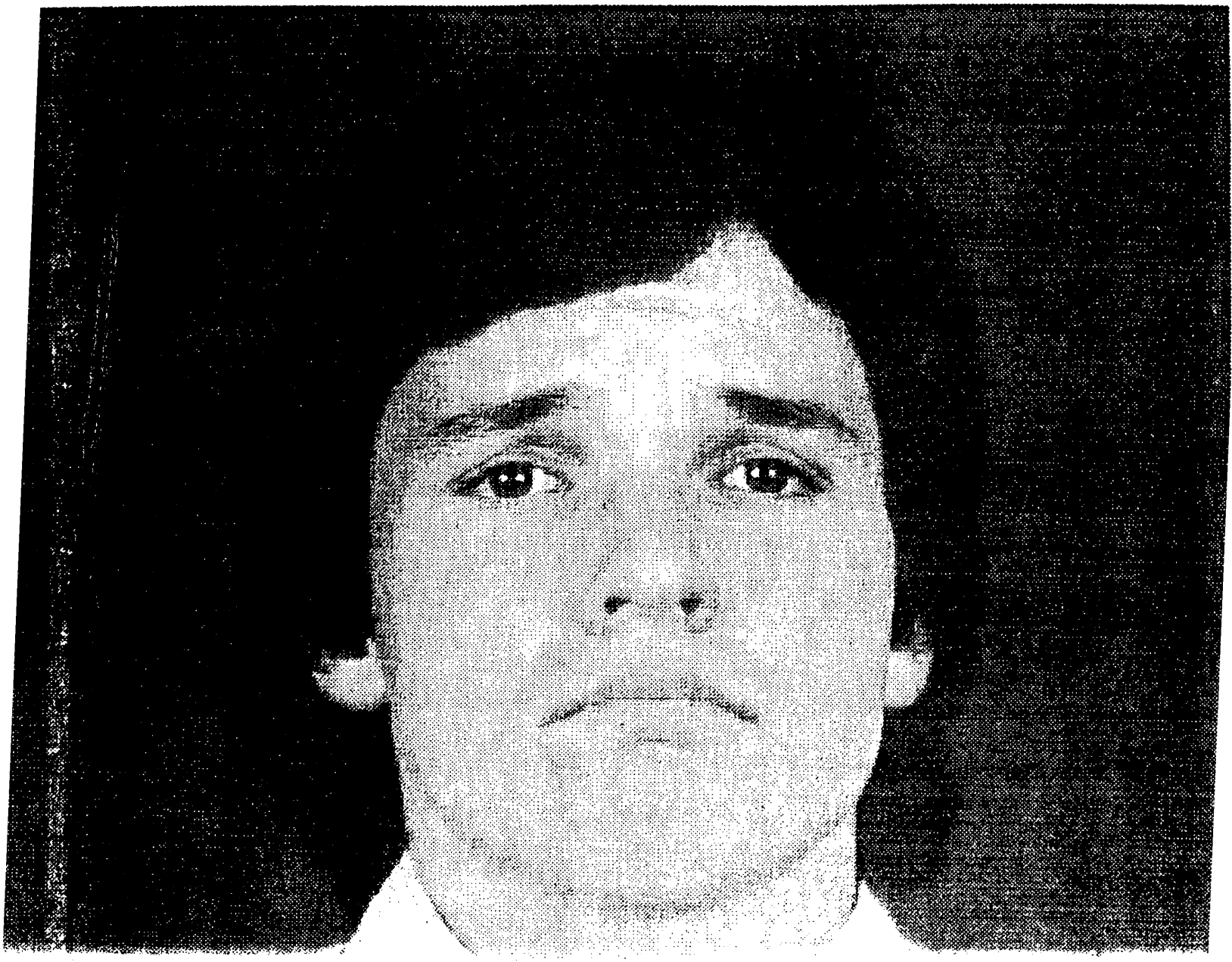












VITA

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